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1 July, 1911.

FIELD NOTES.

Owing to the scarcity of labor at Scottsbluff, Mr. Knorr was compelled to turn over his alfalfa to a neighbor, who cut and stacked it at \$2.00 an acre. On account of the recent rains and the heavy growth of the alfalfa, a great deal of it was lodged.

During the week nine acres of land was prepared and seeded to alfalfa, potatoes were cultivated, and dry land fallow plats harrowed and all weeds cut out. Since the last rain it has been almost impossible to keep the weeds down, and the remainder of the week was spent in this work.

Mr. Knorr reports that his grain drill has done very poor work this spring, and with a view to securing a better one he would like to know what makes are used on other farms. The one he is using at present is the "Tiger" drill, which is also sold under the name "Triumph". The feed cups should be such as will not grind up the peas or other large seed.

Mr. Hawley reports that everything on the Williston Experiment Farm, except 15 acres of young alfalfa, has been watered once, and that a second watering has been begun. The farmers on the project are taking a great deal of interest in irrigating this year and Mr. Hawley is kept busy.

During the week ending June 24 Mr. Hastings reports the weighing of broadcasted sorghum on three plats with an average yield of 4.34 tons per acre.

On the 22nd and 24th Mr. Hastings and Mr. Blair were in the Guadaloupe River bottom near Boerne, collecting plants for Prof. Sargent, of the Arnold Arboretum, and for the San Antonio herbarium. Prof. Sargent is very much interested in this section, as there are a number of trees and shrubs about which little is known. The seed and herbarium building at San Antonio is about completed, and it is intended to make as complete a collection as possible of trees, shrubs and economic plants in that section of the State. Up to the present time about 300 species of plants have been collected.

All the orchards on the farm have been cultivated with a spike tooth harrow and an up-to-date key of the plantings on Orchard A-1 formulated.

At San Antonio the practice is followed of devoting the time of one man, generally on Saturday, to mowing the lawn and work in general on the grounds.

The weather remains dry and hot, with a maximum temperature of 104° on the 19th, at San Antonio.

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PERSONALS.

Mr. Kearney will leave Washington July 2 for Sacaton, Ariz., and Bard, Cal.

Mr. Scofield will leave Washington about July 10, to visit the Belle Fourche and Huntley projects.

Appointment has been requested for Mr. J. M. Spain, of Bozeman, Mont., as assistant on the Huntley Farm, to take effect July 1.

Dr. Briggs will leave Washington July 2 for Akron, Colo., where he expects to stay two months, to be followed by a trip, with Dr. Shantz, to the Umatilla, Truckee-Carson, Yuma, and San Antonio experiment farms some time during August or early September.

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PAY ROLLS.

In cases where men employed on farms operated by this office are paid from appropriations for other offices of the Bureau, it is desired that hereafter Form 3 vouchers or Form 2 (Field Pay Roll) covering the salaries of such employes be forwarded by the farm to the offices paying such salaries, just as vouchers are sent in from the farm to this office to cover salaries of employes paid from the appropriation for Western Agricultural Extension. This course has been determined upon by this office as a matter of policy and should be followed, whether requested by the other offices involved or not.

STALLION SERVICES.

The Secretary of Agriculture has authorized Mr. Headley to pay fees for the service of a stallion for two mares on the Truckee-Carson Farm, where conditions are such as to make it clear that we can raise work horses for our own use much cheaper than we can buy them.

BUILDINGS AND STRUCTURES.

Attention of farm superintendents is called to the fact that the general letters of authorization and instructions for 1912 do not provide for expenditures for material and labor for the construction of buildings or structures of any kind. When occasion for expenditures of this kind arises, special letters of authorization should be requested, and no obligation shall be incurred in advance of the approval of such letters.

FIELD NOTES.

For the week ending July 1 Mr. Aune reports continued drouth. Breaking of the eighty acre tract recently added to the farm has been started, and sweet clover in rotation plats has been plowed. The work of the farm is considerably hampered by an epidemic of influenza among the horses.

In his report for the week ending June 24, Mr. Headley states that 1970 pounds of wheat hay was secured from plat Y-9, making a yield of 3940 pounds per acre. All the alfalfa hay on the farm was cut during the week. Sugar beets on N-17 were blocked and thinned. A good stand has been obtained on this field.

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FIELD NOTES.

At Williston Mr. Hawley spent the week ending July 1 in irrigating alfalfa and some spring grain for the second time, and in giving instructions to some of the later settlers in the use of water. The weather is hot and dry and continuous irrigation is necessary.

During the week ending June 24 most of the time at the Huntley Farm was taken up with harvesting the first crop of alfalfa and putting up hay-unloading equipment in the barn. The work of beet thinning has been somewhat retarded by rain and some of the beets have grown to rather large size before the workers could get around to them. Some sort of beetle is doing some damage in parts of the beet field. This beetle seems to work in spots often not larger than a square rod in different parts of the field, and probably about two acres out of fifteen are infested. The damage to the beet is done by the beetle eating all the leaves off of the plant. If the beetles do not spread further, no serious damage is anticipated, although the beets are sure to be set back to some extent where they are at work.

At Yuma general farm work proceeded as usual during the week ending June 24. Five hundred seedling date palms, variety Zehedy, S. P. I. No. 21008, have been planted. Field A-14-3 has been planted to choice varieties of date seed, including $\frac{1}{2}$ lb. of Tafiilet, 10 lbs. Menaker, and 1 lb. of Fard. Date seed for distribution has been received from Mr. Swingle's office, and 160 pounds out of a total of 209 pounds has been distributed to some 75 applicants on the Yuma Project, mostly in the territory adjacent to the Experiment Farm.

On June 23 about one-half of the cotton plantings was given the second irrigation, and the remainder will be irrigated a week later.

Extensive experiments have been undertaken in the propagation of cotton from green wood cuttings. Entire plants were used in making cuttings, the branches being divided into bottom, middle, and top wood cuttings. Records are kept of the plants as well as parts of plants. In some cases a part of the plant was left in the field for comparative purposes. Egyptian, Upland, Sea Island, and Hybrid cuttings were planted in sandy soil, a part in full shade, a part in half shade, and a part in sunlight. All of these cuttings are watered weekly with irrigation water, a part receiving sufficient additional well water to keep soil continually moist. A quarter acre field planting has been made, consisting of some 1000 cuttings from Hybrid plants to test the possibilities of commercial propagation.

Considerable time is being devoted to raising ditch banks to proper grade in order to facilitate irrigation.

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FIELD NOTES.

The weather conditions remain ideal, the daily maximum varying from 99° to 104° with minimum temperatures from 54° to 69°.

Carleton R. Ball and W. W. Tracy, Sr., visited the station.

Mr. Hastings reports July 1 the threshing of a number of varieties of grain sorghums. Thirteen plats are reported, of which nine are an early planting and four a late planting. The highest yield is 32 bushels per acre, for Dwarf Milo of the early planting; the lowest yield is 15 bushels for a second planting of a White Kowliang. The mean yield for the 13 plats is 23.9 bushels.

There was no sorghum midge damage noticeable, even on the plats of the second planting. The early maturing varieties gave a higher yield than the late maturing ones, but under more favorable weather conditions late in the season this might not have been the case.

Mr. Hastings also reports the receipt of budwood of Chinese *Zizyphus* from Mr. Ramsey, of Austin, Texas, and the attempted working of these on the native *Zizyphus obtusifolia* and on the stocks of *Zizyphus jujuba* planted in the orchard. Also an attempt at budding the Japanese persimmon on the Virginia persimmon and on the native Texas persimmon.

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FIELD NOTES.

During the week of July 1 Mr. Allen made a trip to the Agricultural College at Corvallis for the purpose of reporting on the work being done and the condition of the station.

During the week ending July 1 Huntley finished harvesting the first crop of alfalfa in Field C and the field was irrigated. The oats in Field K were also irrigated. These oats are heading out, and the one irrigation will probably be sufficient. The beets in Field B affected by beetles have been sprayed with Paris green. There appears to be no further spread of the pest and it is likely that no more damage will result. The plowing of the Worden tract has been finished and two acres of corn planted there.

In his report for July 1, Mr. Headley states that 17,330 pounds of alfalfa hay were cut from five fields, being an average of 3,466 pounds per acre. One field of one-half acre yielded at the rate of 5,300 pounds per acre.

During the week Mr. Headley made another trip to Stillwater with Mr. Roe of the sugar beet factory for the purpose of inspecting the sugar beets in that vicinity and also of studying diseases of the grain crops. About 100 acres of beets have been planted in the vicinity of Stillwater. This means that the growers will have to haul the beets about 14 miles, and Mr. Headley believes that the object in growing beets there this year is to make a demand which will justify the extension of the railroad to this town. In the field inspected an average stand of about 80% was found. A number of grain fields were examined, but no diseases were found, except in one wheat field, where about 90% of the tips of the wheat heads were blighted.

At Scottsbluff the time of one man during all the week ending July 1 was devoted to irrigating grain, sugar beets, and potatoes. The beets have made splendid growth since they were watered. It had been hoped that it would not be necessary to irrigate the oats again, but the hot dry weather has dried out the soil so that water may have to be applied again within a week or two. All of the corn, on both dry and irrigated land, has been cultivated and hoed to cut out all weeds. Peas on the dry land plats were plowed under and the plats harrowed and rolled, and the fallow plats have been gone over with a harrow. On Monday Mr. Knorr accompanied the Project Engineer to the upper end of the project to offer suggestions to the farmers in regard to cropping on the sandy soils. In the vicinity known as the Dry and Wet Sheep Creek country, the soil is a very fine sand and this year all of the crops have blown out, leaving a growth of Russian thistle.

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FIELD NOTES.

As the farmers are anxious to get a stand of alfalfa, it was suggested that they irrigate the land and seed about five pecks of rye in the Russian thistles and when the rye is two or three inches high seed the alfalfa. It is not possible to plow this land, for as soon as a furrow is turned the loose sand will blow.

July 8 Mr. Aune reports no rain to date, with a maximum temperature of 105° on the 7th. All the horses have been sick with influenza and two of them have died. The other horses are recovering, but will not be able to work for a week or two yet.

Mr. Hansen reports that during the week of July 8 Fields K, A-IV, and the orchard and small fruits were irrigated. A good stand of alfalfa has been secured on Field A-IV, on both early and late plantings. Beet thinning has been finished and the workers are now doing the second thinning and weeding. The thinning was done very carefully, but exact distancing was almost impossible. The beets intended to be 4 inches apart will average 5.7; those intended to be 7 inches apart will average 8.2 inches those intended for 10 inches will average 10.4 inches, while the beets intended to be 12 inches apart will average that distance. Good results are expected, however, with the close and wide thinning with the stand secured. It has been found necessary to irrigate the plats planted to corn on Field M, as the ground was too dry to germinate the seed.

July 8 Mr. Knorr reports two light showers during the week. These rains did the growing crops but little good, and the dry land grains are burning up very rapidly. So far, the corn is holding its own, but unless a good rain falls within a week or two it will also dry up. Potatoes on the irrigated land are badly affected by early blight and will have to be sprayed. The dry land potatoes do not show any blight as yet. One man irrigated all week, finishing the sugar beets and a portion of the potatoes, and starting on the oats. This will be the last irrigation for the oats. The first irrigated potatoes and a part of the first irrigated sugar beets were cultivated to break up the crust. All of the dry land corn and sorghums were cultivated and the fallow plats again gone over with the harrow. Three acres of red clover were seeded in the spring, but little of it has come up. Sunflowers and weeds are taking the land, so it is being turned under. Running water constantly has caused a number of washes on the farm, especially on the steep hill on the northeast quarter, and it has been necessary to construct a cement retaining wall and a cement turn out, and a number of drops will have to be put in soon in order to prevent any damage to the fields.

FIELD NOTES.

At Fallon during the week of July 8 only the regular routine work of the farm was carried on. A team worked a portion of the week levelling field E, which is now ready for crops. A portion of the forage varieties on Field G that did not come up well was reseeded.

WINTER WHEAT AND WESTERN SOUTH DAKOTA.

Under the above title there was issued June 30 B. P. I. Circular No 79, by Mr. Cecil Salmon, of the office of Grain Investigations. The results published are based largely on Mr. Salmon's work on the Belle Fourche Experiment Farm.

PERSONALS.

Mr. Kellerman returned to the Bureau July 11, from his European trip.

Mr. Swingle returned from Europe on July 15.

Mr. Scofield leaves July 17 for a short trip to Osborn, Newell, and Minneapolis.

Mr. Bailey left July 6 on his visit to the various field stations.

Mr. Brodie left July 6 to assume his new duties on the Huntley Experiment Farm.

22 July, 1911.

FIELD NOTES.

Truckee-Carson.

For the week ending July 15 Mr. Headley reports the harvesting of a half-acre plat of hay with a yield of 1,230 pounds. Three plats of cat hay, aggregating about one acre, yielded 2,225 pounds.

During the week Mr. Headley and Mr. Wright visited several farmers in the Douglas district. One of these farmers was found to have a very interesting field of wheat, which was put in with a sugar beet drill and cultivated three times. Alongside of this field is another which was seeded with the ordinary grain drill. The wheat put in with the sugar beet drill is of a darker, healthier color and is taller than that seeded with the grain drill. The wheat from these fields is to be harvested and threshed separately for comparison. A well put down on one of the ranches was found to contain water having over 12% salts.

San Antonio.

During the week of July 8 the drilled sorghum on the rotation fields was cut and corn on the same fields husked.

Hastings and Blair spent a part of two days selecting corn on the rotation fields for next year's planting and for distribution among the farmers who want seed of the Laguna variety.

The weather remains dry, but not excessively hot, the maximum temperature for the week being 100 degrees.

The cotton is beginning to feel the long continued drought and is shedding both squares and bolls badly, although the prospects for securing a fair crop are still good. The cotton on the earlier plantings is beginning to open.

A few of the peaches in the Mexican seedling orchard are ripening, but only a small percentage of the trees are producing fruit. The quality of the fruit is no better than last season, due to the drought, and the size is inferior to what may be expected during a more favorable season. The trees themselves are proving their usual drought resistant character, having made a medium growth and showing a healthy, green foliage.

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FIELD NOTES.

Belle Fourche.

Mr. Aune reports the loss of another horse during the week of July 12. The epidemic of influenza among the horses has made it impossible to do any field work. The drought continues, no rain having fallen during the week.

KLAMATH REPORT.

A preliminary report on the Klamath Marsh Farm has been requested by the Secretary of the Interior and is now in press.

QUARTERLY REPORT.

The Quarterly Report for the period March 31 to July 1 is now in process of publication and will be issued within a few days.

PHOTOGRAPHS.

It is suggested that hereafter when photographs are transmitted to this office it will be well to indicate which, if any, are taken in connection with co-operative work with other offices of this Bureau, or what offices of this Bureau may be interested in that particular phase of the work represented by the photographs.

PERSONAL.

Mr. Charles A. Burmeister has been transferred temporarily from the office of Dry Land Agriculture to San Antonio as assistant in crop rotation work.

29 July, 1911.

FIELD NOTES.

Scottsbluff.

In his report for the week ending July 15, Mr. Knorr reports that potatoes are blighting worse this year than any time in the history of the Valley. The potatoes on the Experiment Farm were sprayed with the Bordeaux mixture recommended by Dr. Galloway in one of his bulletins.

The irrigation work has continued. Some of the oats have been gone over three times and the last irrigation required more water than it did at the beginning of the season.

The dry land grain is suffering badly and the greater part of it will have to be cut with the mower. Seven plats of winter wheat have been cut, including the continuous cropping work.

The corn is showing the effects of the drouth. All the other crops are so far along that they would not be affected one way or the other by rains at this time.

Saturday, July 22, the Government canal broke and irrigation water was shut off for the entire week. Local showers during this time kept the crops in growing condition and the lack of water has not caused any losses.

During the week all of the dry land oats were cut with the mower and the remainder of the dry land winter wheats were harvested.

On Sunday Mr. Knorr visited 10 potato fields and found but two not affected by the blight. In some fields the Eureka is badly affected and the Ohio almost free; in other fields the opposite was found. As a rule the late plantings are freest so far.

During the week Mr. Vinall and Mr. McLean visited the station, and Mr. McLean was shown some seep land that is causing a great deal of trouble and loss to the farmers a few miles east of the station.

Williston.

Mr. Hawley reports the week of July 22 ending with local rains and very much cooler weather. Although it had not been excessively hot, the wind had blown every day and the ground had dried out fast.

The second cutting of alfalfa is not doing what it should, and Mr. Hawley thinks that the cool nights are responsible. The other crops are doing fine. The winter grains are in the shock.

Potatoes on the dry land are not setting well, but those under irrigation are doing very well. The project is running at its full capacity and the farmers are still

29 July, 1911.

FIELD NOTES.

Belle Fourche.

In his report for the week ending July 22, Mr. Aune reports three very light rains, aggregating 0.19 inch.

It is thought that all of the horses affected by influenza are now out of danger.

Huntley.

During the week of July 15 some work was done on a drain ditch for carrying off waste from Field K, Field C (alfalfa) was irrigated for the second time since the first crop was taken off, and potatoes and corn have been irrigated for the first time.

Ditches have been made in beets and the first irrigation started. The beets have made a good growth and in most places cover the ground between rows.

PERSONAL.

Mr. Scofield left Washington July 25 for a trip to Minneapolis, Belle Fourche, and Huntley.

Mr. Hastings arrived in Washington July 25 and left the following evening for St. Johnsbury, Vt., where he will spend his leave. He will return to Washington for some special work before reporting at San Antonio.

5 August, 1911.

FIELD NOTES.

Truckee-Carson.

During the week of July 28 Mr. Headley made a trip to Pyramid Lake for the purpose of securing seed of the wild peach (Prunus Andersonii) on which a number of grafts of stone fruits have been made. A fair quantity of seed was secured and a collection made of botanical specimens of 28 species of wild plants growing about the lake and on the adjoining mountains. The grafts that had been made on the wild peach trees on the Simons Ranch were doing nicely and some of the grafts had set fruit this year.

During the week of July 29 all of the fields on the farm were irrigated.

The alfalfa on plats N-14 and N-15 was cut and a yield of 1,300 pounds obtained. The combined area of these plats is 0.35 acre, making an estimated yield of 3743 pounds per acre. This was the first cutting from spring-sown alfalfa.

A disease has taken off the beets on plat N-17. A perfect stand was secured, but the beets have kept dying off until at the present time there is only about a 25 per cent stand remaining. The diseased beets all appear to have the lower end and the small feeding roots partly rotted. The soil contains very little alkali.

Scottsbluff.

During the week ending July 29 all of the dry land grain was cut. Part of the grain was high enough to be cut with the binder, but part of it had to be cut with the mower and raked.

The dry land corn is curling badly and from present indications will not make a crop.

The young alfalfa is beginning to show the effects of the dry, hot weather.

Eleven acres of the second cutting of alfalfa were put up during the week. The yield was estimated at about $1\frac{1}{2}$ tons per acre.

On account of the break in the Government canal, the water was shut off more than a week. The young alfalfa on the irrigated land was suffering from lack of water, as were also the beets and potatoes.

The barley varieties on the irrigated land have all been cut, and one plat of Sixty-day oats has been harvested. The cool nights recently kept the grain from maturing, but during the past week the weather has been the warmest of the season.

The greater part of the potatoes have been destroyed by the blight which struck them more than a month ago.

5 August, 1911.

FIELD NOTES.

Umatilla.

The week of July 29 was devoted to clipping the young alfalfa, harrowing alfalfa planted in checks, cultivating berries and grapes, and general work about the station.

Mr. Allen states that some trouble has been reported from strawberry leaf-roller, winter injury, and brown spiders, the leaf-roller and spider being the most serious.

San Antonio.

During the week of July 29 all the fields of cotton on the experiment farm and the field on the Herbst farm were given a cultivation with the double row cultivator, orchards were cultivated, and the roads on the farm put in condition by the use of the two-horse grader.

The drought remains unbroken, and the maximum temperature for the week ranged from 95° to 104°.

Mr. Burmeister arrived July 28 to take up his duties as assistant in soil and rotation crop work.

Belle Fourche.

The drought continues unbroken. On July 23 the temperature ranged from 41 to 62 degrees.

Mr. Scofield arrived at the farm July 29, and at once began a survey of the farm.

The town site lateral has been constructed across the experiment farm, and it is expected that in about two weeks this lateral will be connected with the North Canal.

Mr. Vinall, of the office of Forage Crop Investigations, and Mr. McLane, of the Physical Laboratory, visited the station July 25 and 26.

All of the horses have now recovered from the influenza. Of the ten horses on the farm, nine were affected and two died..

Yuma.

The cotton crop has attained a development where it requires little cultural attention other than frequent irrigation. All crops are making normal and satisfactory growth.

Considerable time has been devoted to general improvement, including the construction of bridges across irrigation ditches, placing concrete floors in power house and part of house basement. There has also been constructed a percola 20' x 26' on top of the farm house, to be used as sleeping quarters and as an outlook point.

The excellent culture of cannas received from Chico in April is growing and blossoming profusely. Tubers should be available next spring for stations desiring them.

High temperatures combined with high humidity have made the month of July rather trying.

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FIELD NOTES.

Yuma.

Mr. L. L. Zook, in charge of the work in the West of the office of Corn Investigations, has planted two acres of corn to be used in breeding work, and one-half acre in variety testing.

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PERSONAL.

Appointments have been requested for Mr. Vincent Fulkerson as Assistant in Dry Land Agriculture, and for Mr. R. E. Blair, as Scientific Assistant in Pomology. Mr. Fulkerson will continue his duties at Truckee-Carson under his new appointment, and Mr. Blair is to remain at San Antonio.

Mr. C. H. Clark, formerly plant breeder at the Arizona Experiment Station, has been employed by the office of Acclimatization and adaptation of Crop Plants and Cotton Breeding Investigations, and will be engaged in the cotton work of the Yuma Experiment Farm for some time.

12 August, 1911.

FIELD NOTES.

San Antonio.

During the week of July 29 the last harvest of grain sorghum was threshed with the following yields in bushels per acre:

Second Planting.

Red Kafir, 2.2; Blackhull Kafir, 3.6; Dwarf Blackhull Kafir, 12.

Third Planting.

Red Kafir, 0.4; Shallu, 0.8; Blackhull Kafir, 0.9; Dwarf Blackhull Kafir, 1.9; Blackhull Kowliang, 2.5; Sudan Durra, 1.9; White Durra, 13.3.

Notes and selections were made from Mr. Collins' first generation hybrid corns on Field A-3, and the crop gathered and yields recorded.

On Wednesday there was a light rain of 0.37 inch, with an agreeable fall of temperature.

Mr. Burmeister and Mr. Gilbert spent the greater part of the week on soil work, and Mr. Blair made a 3 days' trip to College, Texas, for the purpose of observing the working of the pecan on the native hickory stock in that section.

Scottsbluff.

During the week of August 5, the remaining alfalfa, about 5 acres, was cut and put up, and a portion of the dry land grain was threshed.

The cutting of weeds is kept up at odd times, especially on the dry land plats. This year the dry land produced a greater growth of weeds than did the irrigated lands.

On the 5th about half an inch of rain fell, preceded by a light hail.

Huntley.

During the week of August 5, harvesting of the second crop of alfalfa was started, but the work was delayed somewhat by rain. The rain has also done some damage to the hay and grain that was cut. During the week 1.17" of rain was recorded at the station.

Messrs. Carleton, Farrell, and Salmon, of the office of Grain Investigations, visited the farm the first of the week, and Messrs. Scofield, Aune, and Bailey arrived Thursday. Mr. Cole, of the office of Dry Land Agriculture, also visited the farm.

12 August, 1911.

FIELD NOTES.

Williston.

Mr. Hawley reports local rains during the week of August 5, with a consequent improvement in the crops on the dry land.

The grain crops have been laid by and the only irrigation now is on alfalfa, potatoes, and garden truck.

The grain crops under irrigation are doing well, and sugar beets promise better than last year.

Threshing of winter grains will be commenced this week.

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The appointment of Mr. J. M. Spain as Assistant in Dry Land Agriculture has been requested. Mr. Spain is now under appointment as Agent with duties at the Huntley Experiment Farm in charge of rotation and tillage experiments.

The report of Field Stations of Western Agricultural Extension for the quarter ending June 30 will be issued during the coming week.

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FIELD NOTES.

Truckee-Carson.

During the week of August 5 the second crop of alfalfa was cut on practically all of the fields. The six plats on Field Z (about 1.5 acres) yielded 4,410 pounds of hay, or an estimated yield of 2,940 pounds per acre. Plats N-8 and N-9, containing 0.47 acre, yielded 1,660 pounds, being at the rate of 3,532 pounds per acre.

Trips were made to the Stillwater and Island Ranch districts, and to points near Fallon, for the purpose of examining the condition of the sugar beet crop. It was found that practically all of the fields are infected with some disease of the beet, which causes a rot of the roots. The 200 acres of beets that were planted near Stillwater have been abandoned, and many of the fields near Fallon have also been given up. The beets in the Island district were somewhat better, but some specimens were also found there. The disease occurs in all types of soil and under all conditions of management. It is serious enough to warrant an investigation by a pathologist from the Department.

Of all the grain fields examined on the project during the season, none has been found containing either smut or rust, with the exception of a small plat of oats on the Experiment Farm, which has some smut.

Belle Fourche.

Mr. Aune reports August 12 that during the past two weeks 0.88 inch of precipitation has been recorded at the Experiment Farm. Commencing the previous Friday, heavy rains have been falling to the south and west, with the result that the reservoir at Orman has been storing water at the rate of 600 acre feet a day, and there is more water in the reservoir now than there has been at any time this year.

Water will be delivered to the farmers on the project about August 16.

Mr. Aune visited the stations at Huntley and Judith Basin, leaving Newell August 1 and returning on the 10th.

Mr. Zook, of the office of Corn Investigations, was at the station August 12.

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FIELD NOTES.

Williston.

The week of August 12 was devoted to harvesting wheat and oats, threshing winter wheat, and stacking the second cutting of alfalfa.

The grains are ripening very slowly, on account of rain and cool weather. Because of abundance of rain very little irrigation was necessary. On the 13th occurred a hail storm which did more or less damage to all the crops under the ditch.

Scottsbluff.

During the week of August 12 all of the fallow plats on the dry land were thoroughly harrowed, as was also that portion of the dry land to be used for variety tests of the winter wheats.

The greater portion of the oats seeded on the irrigated rotation plats were cut.

All of the oats and wheats in the variety tests have been harvested, and the winter wheats and rye have been threshed. Considering the large area that was blown out in these wheats, the yields are satisfactory.

A small cistern of about 20 bbl. capacity, with a gravel filter, has been dug. The water in the well is so hard that it is impossible to use it for washing purposes. The sides of the cistern have been plastered with two thin coats of cement, and if this cement holds, another and larger cistern will be dug next year.

The potatoes in the vicinity are rapidly dying from the blight. In many of the fields where tubers have set, the tubers are affected by the blight.

Mr. Knorr was called to a farm several miles from the station where a "peculiar growth" was found in the alfalfa. This was found to be dodder, and upon Mr. Knorr's suggestion straw was placed on the affected areas and burned, and as an extra precaution these spots were spaded over and more straw burned on them.

San Antonio.

During the week ending August 12, the first picking of the cotton on the rotation plats was finished and the first bale of farm Triumph cotton was sent to the gin. Of the net weight of 1,204 pounds, 448 pounds was lint and 756 pounds seed, being a lint percentage of 37.2.

The drought continues, and the maximum thermometer registered for the entire week 102° or above.

Due to the protracted drought, the growth of the

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cotton is completed and no more flowers are opening, except on Sea Island, Egyptian, and several hybrids. A number of bolls seem to be ripening prematurely.

Mr. J. D. Mitchell, of Victoria, Texas, who is employed in boll weevil investigations of South Texas, was at the station Friday and made an examination for boll weevil. He reported finding several adult weevils, but only a few squares damaged. All the weevils that were found were on the lower rotation plats, which were in close proximity to the strip of waste land at the south end of the farm, where grass and bushes are on the ground throughout the winter.

KLAMATH REPORT.

The preliminary report on the Klamath marshlands requested by the Reclamation Service has been issued as B. P. I. Circular No. 86 and is now being distributed.

PERSONAL.

Mr. Scofield returned August 15 from a trip to Belle Fourche and Huntley.

Mr. Hastings returned to Washington August 15 after a ten days' vacation in Vermont, and is now engaged in the compilation of a report on the work of the San Antonio Experiment Farm.

26 August, 1911.

FIELD NOTES.

Truckee-Carson.

During the week of August 12, 3460 lbs. of hay was hauled in from the various plats on Field Y, a total area of 2-1/4 acres, or approximately 1533 lbs. per acre.

Alfalfa hay from Field F yielded approximately 2500 lbs. per acre.

Fifty-four pounds of hog millet, heavily loaded with seed, was cut from an area of 142 square feet, being a yield of approximately 8 tons per acre. This variety was the best and earliest of several that have been tried and also gave the highest yield.

Scottsbluff.

Threshing of oat varieties and wheats was begun the first of the week of August 19, but had to be discontinued because the straw was too wet to be handled by the machine.

A cement pipe line in the shape of an inverted siphon put in last spring to carry water across a draw gave so much trouble during the summer through the stopping of the tile by silt, loss of water through the seams, etc., that the tile had to be abandoned and replaced by a dike 380 feet long and 3 feet high at the highest place.

On Thursday a heavy rain and hail fell in and about Scottsbluff, the hail doing a great deal of damage to potatoes and sugar beets.

Williston.

Mr. Hawley reports for the week ending August 19 that the Williston section has been visited by several destructive hail storms during the past ten days. Practically everything under the ditch was injured.

The station has purchased a larger threshing machine and will do all its own threshing this fall. Winter wheat has averaged from 24 to 36 bushels per acre. The two cuttings of alfalfa have weighed out 3-3/4 tons per acre, with promise of a good third cutting.

26 August, 1911.

FIELD NOTES.

Huntley.

Because of rain and cold weather during the week of August 12, harvesting of hay and grain was somewhat delayed.

A 20-acre field has been selected for use for dry-land rotation and tillage experiments under the office of Dry Land Agriculture. The work of breaking this field will be started at once.

Belle Fourche.

For the week ending August 19 Mr. Aune reports that the breaking of 40 acres of the new 80-acre tract is practically completed.

On the 17th there was 0.22 inch of precipitation, and on the 19th 0.5 inch. The maximum temperature for the week was 100°, minimum 55°.

Truckee-Carson.

During the week of August 19, Mr. Fulkerson made a trip to Pyramid Lake to inspect the experiments at that point in grafting and budding domestic plums on native desert almonds. He repaired the fence around the tract and pruned away the limbs and suckers, and also made a detailed examination of the scions and fruit.

BUILDINGS ON FIELD STATIONS.

Under date of August 12, 1911, the Comptroller of the Treasury has ruled that the current Agricultural Appropriation Act does not authorize the use of funds appropriated "for the investigation and improvement of methods of crop production under arid and semi-arid conditions" for the construction of buildings on the Fall River county field station in South Dakota.

Since the appropriation for the office of Western Agricultural Extension is practically the same as that for the office of Dry Land Agriculture, the effect of this ruling will be to prevent the use of funds appropriated for this office in the construction of buildings on field stations. It is now proposed to request from Congress, early in the coming session, authority for the construction of the necessary farm buildings on our field stations, and, if possible, to make this authority effective immediately.

The full text of the Comptroller's decision in this case will be issued with the Bulletin at an early date.

PERSONAL.

Mr. James A. Holden, of Utah, has been appointed an Assistant in Dry Land Agriculture, and has reported to Mr. Knorr at Scottsbluff for duty in charge of rotation and tillage experiments under irrigation to be conducted at that farm.

Stephen Vincent Fulkerson, born June 24, 1911.

2 September, 1911.

AUTOMATIC GATES.

Mr. Aune has need of some kind of a self-opening gate to install at the end of the driveway leading in to the farm at Belle Fourche, and he would appreciate suggestions and criticisms regarding gates of this type that have been purchased and are in use on other experiment farms.

BUILDINGS ON FIELD STATIONS.

In this issue of the Bulletin will be found the full text of the ruling of the Comptroller of the Treasury on the question of the use of funds appropriated by the current Agricultural Appropriation Act in the construction of buildings at field stations.

As copies of this decision are limited in number and it is probable that none will be available for inclusion in the bound volume of the Bulletin to be made up later, it is suggested that this copy be preserved by the farm superintendents.

WEEKLY REPORTS.

To get the best results from publication in the Bulletin, weekly reports should reach this office not later than the following Friday. As a rule these reports are received in time to be included in the Bulletin for the succeeding week, but in some instances they arrive so late that they have to go over, and in the case of Yuma no reports were received during the month of August. Reports from our field men indicate that this feature of the Weekly Bulletin is especially appreciated, and it is desired to keep the items as nearly up to date as possible.

Mr. Charles E. Gage has been transferred from the office of Agricultural Technology to the office of Western Agricultural Extension and will be assigned to duty at the San Antonio Experiment Farm in a clerical capacity.

2 September, 1911.

FIELD NOTES.

Belle Fourche.

The rainfall for the week of August 26 was 0.55 inch. The maximum temperature was 96°, on the 22nd, and minimum 32°, on the 27th.

Scottsbluff.

During the early part of the week of August 26 all of the grain that had been cut was threshed, leaving but a few acres to thresh. All of the grain so far from the irrigated land has yielded very well.

The dry weather continues and it is impossible to do any work on the dry land. Part of the dry land corn is dead and several plats are only holding their own. The alfalfa on these plats is beginning to turn yellow, but can stand several weeks longer without moisture.

Light frosts have been reported in the Valley, but no effects of this have been felt in the vicinity of the experiment farm.

San Antonio.

A 1-inch rain on the night of August 13 put the fields in a condition necessary for a thorough cultivation during the first of the week.

All the orchards were gone over with the orchard cultivator, and all the cotton on the farm and on the Herbst field was given a shallow cultivation. This is probably the last cultivation that can be of any benefit to the cotton, as nearly all of the bolls are now open.

The rain was not sufficient to put the soil in condition favorable for planting the cow pea crop on the rotation plats.

The second picking of the cotton on the rotation plats was begun Thursday.

A large number of small plants of Vitex incisa (S.F.I.No.21976) were transplanted from greenhouse benches to nursery rows. This shrub has proved to be a very resistant to the strong calcareous soils on the farm and it is a very attractive ornamental with a delicate blue flower. The object of the propagation of these shrubs is for distribution among people of the community who are interested in hardy ornamentals.

2 September, 1911.

FIELD NOTES.

San Antonio (continued)

A number of pistache buds of the species P. vera, P. mutica, and P. terebinthus were received from Chico, Cal., and worked on the Pistacia chinenses stock growing in the nursery. Also several pecan trees on a neighboring farm were top-worked by budding with cultivated varieties.

Williston.

In a recent report Mr. Hawley gives the following estimates of crop acreages under irrigation this season:

Wheat.....	760
Oats	550
Barley.....	110
Alfalfa.....	515
Alfalfa (planted this spring with nurse crop).....	500
Potatoes.....	65
Corn.....	25
Flax.....	50
Native meadow.....	205
Millet.....	10
Truck Gardens.....	60
Beans.....	10
Peas.....	5

During the week of August 26 an inch and a half of rain fell, so that little irrigation was necessary.

Threshing at the station has been finished.

Owing to the severe hail, most of the grain under the ditch is being cut for hay.

Huntley.

The fore part of the week of August 19 was taken up with hauling and stacking the second crop of alfalfa. Three plats in A-IV averaged 2756 lbs. per acre, and the average yield of fields B and C was 2495 lbs. per acre.

In field A-II the grass mixtures average about 1200 lbs. of hay per acre, and clover 1600 lbs. per acre.

Sugar beets are being irrigated the second time, and breaking of the dry land tract has been started.

No rain fell during the week. The maximum temperature recorded was 97.5, on the 14th, and minimum 50.5, on the 19th.

2 September, 1911.

Mr. Peterson is to leave Yuma September 1 for a reconnaissance in the Uncompahgre Valley in Colorado, where he will be joined by Mr. Blair about the 12 September. It is expected that he will devote the greater part of the month of September to this work.

Mr. Scofield and Mr. Doyle will leave Washington September 18, to visit the Scottsbluff Experiment Farm, the Uncompahgre Valley in Colorado, the Truckee-Carson Experiment Farm, the work being done by Mr. Irish in the delta of the San Joaquin River, the Yuma Experiment Farm, the Pecos Valley, and the San Antonio Experiment Farm.

Mr. Doyle will be prepared to take a series of photographs on each of the field stations, and it is suggested that superintendents so shape their work as to leave the best opportunity for securing a good set of photographs at each place.

Mr. Hastings, who has been on leave and in Washington for some time past, will return to San Antonio September 6.

(See Page 68 —

BUILDINGS ON FIELD STATIONS).

9 September, 1911.

FIELD NOTES.

Belle Fourche.

During the week of September 2, Messrs. Aune and Carr made a trip by team to Sturgis, Whitewood, Deadwood, Spearfish, and Bellefourche, collecting plant specimens for the station herbarium. Nearly 300 specimens were obtained, representing about 90 species. Seed was also collected of the native Yuccas and Crataegus for planting on the farm grounds.

The maximum temperature for the week was 94°, on the 1st and 2nd, and the minimum was 38°, on the 29th. There was no rainfall during the week.

Truckee-Carson.

During the week of August 26 the leveling of Field C was continued. The cost of leveling this field will be unusually high, on account of the rough character of the ground.

Many of the young cottonwood and poplar trees in and about Fallon have been dying during the summer. Specimens of the trunk were sent to the Entomologist at Reno, and he identified the trouble as being caused by borers.

Soil samples taken from various fields on the project indicate that the dying out of alfalfa in spots is due to the presence of black alkali in many cases. One farm was found where the lack of success with alfalfa was plainly caused by the high water-table.

San Antonio.

Mr. Burmeister made a 3-day trip to Uvalde, Texas, during the week of August 26, for the purpose of studying dry-land farming in that section, and while there attended the State Dry Farming Congress.

During the early part of the week the maximum thermometer registered 100° to 102.5°, but a slight shower on the evening of the 24th produced a slight fall in temperature for the remainder of the week.

9 September, 1911.

FIELD NOTES.

Huntley.

During the week of August 26, the beets received the second and probably the last irrigation of the season. Continued cool, wet weather has rather held this crop back, with the result that the yield will probably not be as large as expected, unless there is better growing weather during the month of September. In some of the fields over the project considerable damage has been done to the beets by a leaf-eating web worm. This pest has appeared so far only in a few fields, and owing to the lateness of the season it is not likely that it will do much more damage in new fields. The worm has so far not been noticed on any of the beets on the experiment farm.

The first crop of alfalfa was harvested from plats A IV-3 and A IV-4. These plats are about 1/4 acre in size. Both of the plats were seeded June 5, so that the crop was ready to cut in less than 80 days. Flat A IV-3 was seeded with a grain drill, the rows being 6 inches apart. This plat yielded at the rate of 2951 lbs. per acre. Plat A IV-4 was seeded at the same time, but with the grain drill so arranged that only every third drill was open, making the rows 18 inches apart. This plat has been cultivated with a sugar beet cultivator, and the crop, cut at the same time as A IV-3, yielded at the rate of 3160 lbs. per acre.

In the Bulletin of September 2, alfalfa yields from plats A IV-2, A IV-6, and A IV-10 were noted. These plats, also 1/4 acre in area, were seeded with a grain drill, every hole open, rows 6 inches apart, without a nurse crop, on May 5, 1911. These three plats were harvested during the week of August 19 and yielded at the following rates per acre: A IV-2, 2860, A IV-6, 2720, and A IV-10, 2638 pounds. These were triplicate plats with a maximum deviation from the mean yield of less than 4 per cent.

Scottsbluff.

During the week of September 2 one plow was kept on the oat stubble. The land was well irrigated before plowing and is in excellent condition.

The corn varieties on the dry land were cut. This corn was burned by the drought, no ears forming and the stalks drying just as the silk appeared.

The dry land for the variety test of winter wheat was put in shape and is ready for seeding. The soil is very dry.

9 September, 1911.

FIELD NOTES.

Scottsbluff (continued)

The irrigated land for the variety test of winter wheat was prepared and seeded.

The late seeded wheat and oats were cut during the week. This finishes the grain harvesting, and within a week or two the alfalfa will be cut again.

PERSONAL.

Messrs. Cook and Clark left Washington September 6 for San Antonio and Yuma. Mr. Cook will be out until late in November.

Mr. Swingle went to Europe September 9. He will attend the Genetics Congress in Paris the week of Sept. 18, visit herbaria in Belgium and Germany in connection with his citrus investigations, and go to Algeria in connection with date investigations, returning to this country by way of Spain about November 1.

Mr. Kearney will leave on a western trip Sept. 18, going to Akron, Bakersfield, and Yuma, and returning to Washington early in November. Mr. Dillman will join him at Akron and go to the Southwest to assist in the work of cotton selection.

Dr. Briggs returned to Washington Sept. 8, after a trip through California, following a month's work at Akron with Dr. Shantz.

NEW DRY-LAND FARM IN SOUTH DAKOTA.

Mr. Chilcott, who is at present in the field, writes that he has located the Fall River County, South Dakota, Experiment Farm at a point near Ardmore. Mr. W.W. Burr has been transferred from North Platte to Ardmore.

FIELD NOTES.

Belle Fourche.

During the week of September 9 the temperature ranged from a maximum of 84° , on the 4th, to a minimum of 43° , on the 6th. On the 5th there was 0.54 inch of rain, on the 6th 0.30 inch, and on the 7th 0.09 inch.

Yuma.

The maximum temperature for the week of September 2 was 113° , on August 30, and the minimum was 65° , on the morning of the same day.

The cotton crop, which is beginning to mature, gives promise of at least average returns from most of the plats. The spotted condition of the soil due to leveling will materially affect results.

A disease of the alfalfa which attacks the root about three to eight inches below the ground is quite prevalent and is causing the farmers considerable anxiety.

Williston.

The large amount of rainfall the past month has rendered further irrigation unnecessary and the plant has been closed for the season. Mr. Hawley's time will now be devoted to preparing old ditches and constructing new ones.

All the fruit planted last year bore some during the past season and promises to do well.

Umatilla.

Several nice showers fell during the week of September 9 and the weather has been very pleasant. Some of the third crop of hay was caught by the rains and considerably damaged.

Scottsbluff.

Plowing of the irrigated land continued during the week of September 9 and on Saturday plowing of the oat stubble to be devoted to irrigation work next year was finished. The depth of plowing on this land was about 8 $\frac{1}{2}$ inches.

Seeding of wheat varieties on the dry land was begun Thursday, but the work had to be discontinued on account of a windstorm.

16 September, 1911.

FIELD NOTES.

Scottsbluff (continued).

Thursday afternoon there was a hail-storm that cut up the corn and sugar beets very badly, cut the pods on the cow peas, and beat out much of the millet seed that had just been cut.

The first seeded winter wheat on the irrigated land is coming up nicely and it is hoped that this will make sufficient growth this fall to protect the soil and prevent blowing out as it did last year.

Truckee-Carson.

During the week of September 2, Mr. Fulkerson made a trip to some ranches a few miles up the Carson River to secure specimens of potatoes grown there by Italians. These potatoes were sent to the Entomologist of the University of Nevada, who reported that they were infested with the potato eel-worm. A car of potatoes shipped from these farms last winter was rejected on account of the eel-worm. This year the same farmers planted potatoes on the same land without changing the seed, and now they have a recurrence of the trouble.

In the test of sorghum varieties that is being made at this station and at the Indian School, it has been found that Black Amber, Red Amber, White Amber, Jerusalem corn, and broom-corn are very satisfactory varieties to grow here. The Superintendent of the Indian School is so well pleased with the appearance of the broom-corn that he is planning to get hand machinery for the manufacture of brooms and making this an industry for the Indians on his reservation.

Mr. L. A. Morehouse, of the office of Farm Management, was a visitor at the station August 30. He is making a study of the rotations on farms where sugar beets are being grown.

San Antonio.

During the week of September 2 a precipitation of 1.08 inches was recorded. This rain fell during Monday night and Tuesday morning. The supply of water in cisterns was replenished, but the crops were not benefited greatly.

Cotton picking on the rotation plats continued throughout the week and selections for 1912 were made from the breeding block of Triumph cotton on Field C-5.

Messrs. Kinsler, McLachlan, and Meade were at the farm making selections in the cotton breeding experi-

FIELD NOTES.

San Antonio (continued).

ments.

During the week of September 9 the second picking of cotton on the rotation plats was finished. Owing to the scarcity of the boll weevil, a "top" crop is setting. While small "top" crops have set during previous years, nothing like as large a crop has heretofore occurred. This is no doubt due in part to the recent light rains, as well as to the scarcity of the weevil.

During the early part of the week Mr. Gilbert made a trip to Lovernia for the purpose of collecting buds of the hybrid Frunus glandulosa growing in that section.

While the drought during the latter part of the growing season has been one of the severest experienced during the history of the farm, the fruit trees are apparently coming through nicely. As has happened in previous years, the pistache trees are severely affected with root rot, as are also the dry land figs to a slightly lesser extent. Several of the grape vines in the vineyard have also died from the disease, including one native mustang vine. These are the more severely affected of the fruits being grown.

QUARTERLY REPORT.

Material for the Quarterly Report should be assembled in the Washington office December 1, instead of October 1.

MEALS, CHARGES FOR.

In order to secure uniformity at the different field stations operated by this office, it is suggested that, on and after October 1, 1911, at each experiment farm where the Department furnishes the equipment and where the supplies are furnished by the members of the mess, a charge of thirty-five cents (35¢) be made for each meal served a transient visiting the farm on official business.

C. S. SCOTFIELD.

FIELD NOTES.

Belle Fourche.

During the week of September 16 the maximum temperature was 93°, minimum 42°; precipitation 0.11 in.

Yuma.

During the week of September 9 the maximum temperature was 104°, on the 3rd, and the minimum 52°, on the 7th.

Mr. Peterson left on the 8th for Montrose, Colo., for the purpose of making a reconnaissance of the Uncompahgre Valley.

on the 8th the first picking of cotton was begun in the multiplicate series of Egyptian and the cooperative series of Upland.

Mr. S. B. Farrell, of the office of Grain Investigations, and Mr. Narayan, Director of an experiment station in India, visited the farm September 7.

23 September, 1911.

FIELD NOTES.

Huntley.

During the week of September 9 oats on Field K and other grains from Field A-I and F were threshed. The average yield per acre of oats in Field K was 64 bushels. The average yield of grains in A-I were: Wheat, 39.7 bu., oats, 69.2 bu., and barley, 58 bu.

A sample of beets taken from the farm September 1 shows 15.4 per cent sugar. The beet harvest is to begin on some of the farms on the project on September 15.

Truckee-Carson.

During the week of September 9 a trip was made to the Island District to inspect an orchard with a view to putting in smudge pots next spring to protect from frost. The orchard in question contains a little over two acres and the trees will be five years old next spring. Most of them will be ready to bear. This is the largest orchard on the project that is in one square block; other orchards containing an equal number of trees being spread over larger areas and the trees somewhat scattered. For this reason it is considered that this particular orchard offers the best conditions for a fair test in controlling temperatures. A boring was made in this orchard and the water-table was found at a depth of $2\frac{1}{2}$ feet, which probably means that the land will have to be drained within the next few years.

A trip was also made to the Stillwater District. The sorghum varieties at the Indian School have done very well. Corn in the vicinity of Stillwater yielded on an average of from $\frac{3}{4}$ to one ton per acre.

Mr. Headley made a trip to Reno on the 7th and 8th for the purpose of conferring with the Entomologist and Pathologist of the University of Nevada in regard to insects and diseases of plants that have been prevalent on the project this year. Arrangements were also made with the Chemist at the University to analyze the sorghum varieties that are being grown on the Experiment Farm and at the Indian School.

A light frost was noted on the 5th and 6th, but no noticeable amount of damage was done.

30 September, 1911.

PHOTOGRAPHIC PLATES.

In order to insure the safe delivery of photographic plates by mail, three 5 x 7 shipping boxes of $\frac{1}{2}$ inch pine, with slide top, are being constructed. If additional boxes of this kind are needed, this office should be notified as soon as possible.

POPULUS SPECIMENS.

Mr. I. Tidestrom, of the office of Taxinomic and Range Investigations, is preparing a monograph on the genus Populus, and is desirous of obtaining from each of our field stations specimens of the species indigenous to each region. Specimens of both the wild and cultivated species should be secured, if possible. Leaves from both the young shoots and the tree branches are often essential in correctly determining the species. Any such specimens secured should be sent directly to Mr. Tidestrom.

FIELD NOTES.

Umatilla.

Umatilla reports a light frost September 22, with no serious damage done.

Belle Fourche.

During the week of September 23, the maximum temperature was 82°, minimum 35°. No precipitation was recorded.

Truckee-Carson.

During the week of September 16, plats E-1, 2, 6, and 12 were seeded to Turkey Red winter wheat.

Samples of potatoes were gathered from a number of farms on the project and in some cases they were found to be infested with the eelworm. It is probable that this pest will be found in fields to some extent on all parts of the project.

30 September, 1911.

FIELD NOTES.

Scottsbluff.

During the week of September 23, the third cutting of alfalfa was completed. As soon as the hay was removed, the field was irrigated and the alfalfa started a strong new growth.

Messrs. Chilcott, Scofield, Cole, and Doyle visited the station.

A number of changes were made in regard to laying out the fields and increasing the area devoted to the irrigated rotation work. On account of these changes the winter wheat that has been seeded will have to be turned under.

Yuma.

Mr. E. M. Benzin, Special Agent of the Department of Agriculture of Russia, visited the farm September 13. Mr. Benzin is especially interested in drought-resistant plants and dry farming.

Mr. McLachlan arrived from Texas September 14 and will remain at the station most of the time until the latter part of November.

Cotton is being picked from Mr. Kearney's breeding rows and from bulk planting of Yuma and other varieties which were isolated for seed increase.

PERSONAL.

Mr. Clarence R. Letteer, of Broken Arrow, Okla., has been appointed an Assistant in Dry Land Agriculture, for duty at San Antonio.

Mr. C. E. Gage, formerly of the office of Crop Technology, has been transferred to Western Agricultural Extension and assigned to duty at San Antonio as farm clerk.

Mr. E. C. Chilcott returned to Washington Sept. 28.

7 October, 1911.

FIELD NOTES.

Belle Fourche.

During the week of September 30 the fall plowing of the rotation plats and the planting of winter wheats were finished.

The maximum temperature for the week was 85°, minimum 35°; precipitation 0.15 inch.

Truckee-Carson.

During the week of September 23 the Truckee-Carson Fair was held, and an exhibit from the Experiment Farm was entered. In this exhibit were included such field and garden crops as were considered of special value. Four types of orchard heaters were also shown. Messrs. Headley and Fulkerson acted as judges of the agricultural exhibit.

On Sunday night, September 17, occurred the first killing frost of the season, the official temperature going down to 27° and the orchard temperature to 24°.

During the week of September 30 the third cutting of hay was made on all of the fields. The yield from Field Z was 5,030 pounds, making a total yield of 14960 pounds for the three cuttings this year, or an average of 5 tons per acre.

Mr. Fulkerson found more potato fields along the old river infested with the eel-worm.

About two hundred 6-inch and 10-inch concrete tile have been made. The 6-inch tile will be used for draining some of the alkali plats; the 10-inch tile are useful for culverts and water gates.

Yuma.

During the week of September 23, Mr. McLachlan visited the Durango and Columbia cotton planted at Mr. Wilsie's place. He found the Durango cotton especially doing very well — heavily fruited and promising a probable yield of one bale per acre.

The farmers of the Imperial Valley have found from

7 October, 1911.

FIELD NOTES.

Yuma (Continued)

this year's experience that it is possible to grow cotton from the previous year's stumps and produce a good quality of staple and large yield. Several planters picked nearly a bale per acre from such volunteer cotton. It may prove possible to grow cotton in the Imperial Valley as a biennial crop, seeding being done every second year. This amounts to a discovery on the part of the cotton planters in the Valley, since what was previously known regarding the poor quality and deterioration of volunteer cotton in South Texas would tend to discourage attempts at such practice.

Huntley.

The first killing frost of the season occurred on the night of September 18, the thermometer registering 28°. Corn, potatoes, and other tender crops in the garden were frozen, and the third crop of alfalfa was damaged to some extent. The damage to alfalfa occurred only in spots that appeared to be dry. Corn and sorghum were not fully matured and the frost will prevent a full crop.

Scottsbluff.

During the week of September 30, the sorghum and cowpeas were cut. On account of the cloudy weather and continual rains, these crops are not curing properly and are liable to spoil before they can be gotten in.

Plowing of the stubble land recently added to Mr. Scofield's rotation work was finished, as was also the plowing of the land to be devoted to fall and spring irrigation work.

All of the dry land corn has been husked and left in the field for proper curing before being weighed.

During the week 0.39 inch of rain was registered, and the winter grain is now in good shape for the winter.

The alfalfa on the dry land has made a good growth during the week.

7 October, 1911.

FIELD NOTES.

Umatilla.

During the week of September 30, notes were taken on the growth of corn in the variety plats and the fodder removed. The plats of milo, kaffir corn, and sorghum were harvested. These crops were sown late. The sorghum did not mature any seed, but the milo and kaffir corn produced very heavy heads. The stalks were short and the crop light.

The fourth crop of alfalfa was cut. It had been partly killed by frost and was cut before maturity to prevent further loss.

San Antonio.

During the week of September 23 the greater part of the farm force was engaged in picking cotton. A part of the Acala block and some of the Durango on the Herbst field was picked, as were also several rows of Triumph on C-3.

Fields A-3 and A-4-3 were plowed. The soil is very dry, making plowing very difficult.

A rain of 0.62 inch fell on the 23rd.

14 October, 1911.

FIELD NOTES.

Yuma.

During the week of September 30 the maximum temperature was 106°, on the 24th; minimum, 60°, on the morning of the same day.

Mr. Townsend, gin expert, arrived at the station September 24, and finished ginning the first picking of cotton on the 30th.

Messrs. Kearney, Dillman, and Clark visited the station during the week.

The fourth cutting of alfalfa was finished during the fore part of the week. A yield of but two tons from seven acres was secured.

Scottsbluff.

During the week of October 7 the work of cutting corn varieties on the irrigated land was begun, but had to be discontinued in order to hurry the delivery of beets to the sugar factory.

Prof. L. C. Corbett visited the station October 7, to look into the potato situation. A large number of fields on the project were visited. The best fields seen will make a yield of about 100 bushels per acre, but in many cases the crop is so near an entire failure that the fields will not be dug at all.

WEEKLY REPORTS.

The dearth of items in this issue of the Bulletin is due to the fact that up to the hour of issue but one report for the week ending October 7 had been received.

FIELD NOTES.

Huntley.

During the week of October 7 the hay in Field A-IV was harvested.

Most of the week was devoted to the harvesting of beets.

There has been no rain during the past two weeks and weather conditions have been excellent for beet harvesting.

Yuma.

During the week of October 7 the maximum temperature was 95°, on the 7th; minimum, 46°, on the 6th. The greatest change in 12 hours was 45°, from Friday a. m., to Friday p. m.

Sweet potatoes grow at Bard. One hill of Georgia yams dug October 5 from planting of March 10 weighed 22½ pounds.

Messrs. Cook, Gilbert, Marshall, and Meade arrived at the station the night of the 7th, having come from San Antonio.

Truckee-Carson.

During the week of October 7, Messrs. Ballard, Brazeale, Doyle, Kellerman, Peterson, and Scofield visited the station.

The following table shows the yields of potato varieties harvested on the Ferguson Ranch and on the Experiment Farm:

Experiment Farm. Ferguson Ranch.
(Yield per 100 ft. of row).

Red Ohio.....	90 lbs.	52½ lbs.
Mammoth Pearl.....	47 "	104 "
White Beauties.....	67 "	138 "
Triumph.....	77 "	68 "
Rose Seedling.....	20 "	86 "
White Ohio.....	74 "	69 "
Rural New Yorker.....	? "	44 "
Early Ohio, #569.....	78 "	? "

FIELD NOTES.

Huntley.

The hay from the plats on Series A4 was harvested during the week ending October 14, the yields varying from 760 to 2600 pounds per acre.

About half of the beets were also harvested, the beets yielding at the rate of 13 to 16.5 tons per acre.

San Antonio.

On October 13 there was a rain of .54 inches, sufficient to put the recently plowed fields into condition for harrowing.

The final picking of cotton on Plats E4, C4, and AB8, was made during the week ending October 14.

A trial is to be made on the Experiment Farm of English walnuts budded on native black walnuts. Such an experiment is now being tried at Collins' Gardens, where some varieties made a growth of several feet since being budded last year.

Scottsbluff.

During the week of October 14 all the beets that were ripe and ready for market were pulled. About a half acre of beets remain to be pulled.

All the dry land corn was hauled in and the grain and stover weighed separately.

The potato crop is almost a total failure, but a few tubers being secured from the variety test and a small number from the dry land.

The septic sewage tank constructed last year has proved a success, and a permanent cement pipe run-off has now been constructed to replace the temporary run-off.

VOUCHERS.

A considerable number of vouchers has recently passed through this office carrying items for repairs. Such vouchers must show either on their face or on an attached statement, preferably the former, that the article repaired was Government property.

28 October, 1911.

FIELD NOTES.

Truckee-Carson.

During the week of October 14 the peanut crop was harvested. Spanish peanuts yielded 4-1/10 lbs. to each 100 feet of row, and the Mammoth Virginia at the rate of 5-4/10 lbs. to each 100 feet of row. The latter were not as well matured as the Spanish.

Dutch case-knife beans yielded at the rate of 16 lbs. per 100 feet of row.

Large lima beans and Henderson bush lima beans matured a large part of their crop, but the yield was rather low.

The office and laboratory buildings are being repainted.

Umatilla.

During the week of October 14 five days were put in by one man with team sowing and working rye into the ground on the idle experiment plats and on the orchard tracts.

The weather is clear, with considerable wind. The nights are frosty and the ground is becoming dry again.

During the week of October 21 the weather continued bright, with but little wind. The nights are cold and during this week the temperature dropped to 20° on two occasions.

The results on all tree fruit experiments have been checked and tabulated. On all but the cane fruits the loss is much less than last year, but the rate of growth has been little better. In all cases trees have made the best growth at the wet ends and on low ground.

Belle Fourche.

During the week of October 14 the maximum temperature recorded was 82°, minimum 35°.

28 October, 1911.

FIELD NOTES.

San Antonio.

The final picking of cotton on the rotation and other fields was made during the week of October 21. The average yield from the rotation fields was 497 pounds of seed cotton. The largest yield was 610 pounds, from A5-16; the previous crop being corn and the plat having been manured and subsoiled. The lowest yield was from A4-1 — 318 pounds. This plat was summer fallowed in 1910.

Mr. Blair returned October 18 from his trip to the Uncompahgre Valley in Colorado.

Yuma.

The maximum temperature for the week was 98°, on October 8, and the minimum 45°, on the morning of the 15th. The greatest range for twelve hours was 52°, on Friday the 15th.

The alfalfa on the Yuma Farm and adjoining ranches which turned yellow and practically suspended growth during August and September, has recovered and gives promise of a full crop at the next cutting. This bears out the prediction and advice given the ranchers, who were very much alarmed concerning their alfalfa.

The harvesting of the cotton crop has been continued. A number of the settlers are evincing an interest in Egyptian cotton culture, and it is likely that a considerable acreage will be planted next season in the Yuma, Salt River, and Imperial valleys.

Mr. C. F. Cook and assistants, Roland Meade and C. G. Marshall, and G. B. Gilbert of the San Antonio Farm are spending some time on the Yuma Farm in cotton investigation work.

Dr. W. A. Cobb, Crop Technologist, visited the Farm on the 9th, and Mr. L. L. Zook, of the office of Corn Investigations, spent four days at the station taking field notes on his corn plantings.

Mr. Peterson returned from his trip to the Uncompahgre Valley on the 9th.

4 November, 1911.

NEW BUREAU ORDER BULLETIN.

The Bureau of Plant Industry has begun the publication of a series of multigraphed circular letters entitled "Administrative Notes and News", the first number having been issued October 20, 1911. The purpose of this series of circulars is to bring to the attention of officers and employees of the Bureau the more important changes in laws, Comptroller's decisions, departmental and other rules, and other administrative matters affecting the Bureau. Anything of direct interest to our field stations appearing in this circular will be quoted or abstracted in the Weekly Bulletin.

EXPOSITIONS, FAIRS, ETC.

In view of the doubtful legality of expending department funds to make exhibits at expositions, fairs, and the like, the following general policy has been adopted by the Bureau:

"First: That the Bureau will not make exhibits at expositions, land shows, fairs, or other similar displays which involve the expenditure of funds not specifically appropriated for such purposes.

Second: That in cases where exhibition material is already available in the Bureau, it may be loaned to organizations and associations which are willing to defray all expenses of transportation to and from the place of exhibit, cost of installation, etc., and agree to be responsible for the material while out of the possession of the Department."

It is also the policy of the Bureau to discourage the attendance of its officials at such shows in the capacity of judges —

- "(1) Because it is believed the time spent in the work does not, as a rule, bring a fair return to the Department.
- (2) Because even with the fairest judging, some elements are dissatisfied.
- (3) Because the judge's action is sometimes used for advertising purposes and the name of the judge and the Department is quoted and cited in support of the thing advertised.

4 November, 1911.

- (4) Because the work is for the most part of such a nature that its legality is open to question."

(Administrative Notes and News No. 1).

FIELD NOTES.

Umatilla.

During the week of October 28 the maximum temperature registered was 68°, minimum 15.5°; precipitation 0.065 inch.

Truckee-Carson.

During the week of October 21 no work was done outside of the regular routine of caring for the buildings and grounds and leveling land.

Huntley.

Most of the time during the week of October 21 was taken up with the harvesting of sugar beets.

Corn was harvested from A-II-12, with a yield of 55.1 bushels to the acre.

Yuma.

Messrs. Scofield and Doyle arrived at the station October 21 for a two weeks' visit.

Mr. W. E. Townsend, who has spent some time on the Yuma Farm, completing the installation of cotton gins, has gone to Sacaton to assist in installing the cotton gin and press on the Sacaton Farm.

Messrs. Clark and Dillman left for Washington on the 20th.

Scottsbluff.

During the week of October 21 Messrs. Knorr, Holden, and Pfaender attended the meetings of the Dry Farming Congress at Colorado Springs.

During the early part of the week of October 28 several acres of alfalfa were plowed with a view to getting the land in shape for sugar beets next year.

On Thursday and Friday but little outside work was done on account of snow and the ground being frozen.

11 November, 1911.

FIELD NOTES.

Truckee-Carson.

During the week of October 28 the work of pulling down the sand dune east of Field S and filling up a low alkali hole was begun.

Requests for bids on a greenhouse have been sent to three eastern firms. It is planned to build a greenhouse 18 x 25 feet, to be heated by an oil furnace.

Experiments in growing alfalfa in soil treated with lime, calcium oxide, calcium carbonate, and calcium sulfate show that each of these chemicals improves the soil and favors quicker germination of the alfalfa seed. The calcium oxide and calcium sulfate make the soil much more pervious to water. Alfalfa seedlings in the soil containing calcium sulfate have up to this time made more rapid growth than in any of the other treated soils.

Two samples of sugar beets have been sent to the Nevada State Experiment Station and have been reported on as follows:

Sample Marked.	Sugar in juice.	Sugar in beet.	Purity.
Thomas Dolf	16.0%	15.2%	80.0%
A. Baumann	17.2%	16.34%	86.0%

Scottsbluff.

On the first of the month two of the farm-hands were dismissed and a man with family taken on in their place. This man will remain on the farm during the winter.

The cold weather of the past three weeks has frozen the ground to such a depth as to make it impossible to pull sugar beets. The sugar factories have thousands of tons of beets piled up at nearly all of the beet dumps. All of these are badly frozen, and it is feared that many of them will spoil if warm weather comes before they can be moved.

11 November, 1911.

FIELD NOTES.

San Antonio.

During the week of November 4 Messrs. Hastings and Blair made a trip to the Pecos region to collect seed of the wild pistache from trees hand pollinated last spring. The fruit did not appear to be more fertile on the hand pollinated trees than on those not touched; most of the seed on all trees being sterile. A large quantity of seed was collected. Eight shoots with roots were secured and shipped to San Antonio to be planted on the farm.

Fifteen plants of Prunus multiflora were collected and also several species of Yuccas.

On the 30th 2.17 inches of rain fell, which with several showers later made a total precipitation for the week of 3.03 inches.

The heating plant in the greenhouse was installed the latter part of the week.

Mr. C. R. Letteer reported for duty at the station on the 30th.

Yuma.

Mr. T. H. Kearney returned to Washington October 23, after spending two weeks at the station making selections from his Egyptian cotton progenies.

A census of the seedling Smyrna figs on C-10 to 17, some 1800 in number, and the varieties of Smyrna and Capir figs which constitute the 4-A orchard, shows an 85% stand of plants from seedlings and cuttings. The season's growth has been excellent, the plants averaging 3 feet. This orchard will be extended to include C-1 to 10.

A census of the 89 date palm offshoots received from the Tempe and Mecca gardens during the past two years shows 53 dead, 33 living but having made no growth, and 3 growing. The 450 seedling date palms which were transplanted into orchard form last June have nearly all made a good growth.

Belle Fourche.

The maximum temperature for the week of November 4 was 58°, minimum -8°

18 November, 1911.

FISCAL REGULATIONS.

General Order No. 148, dated October 24, 1911, being certain amendments to the Fiscal Regulations, is included in this issue of the Bulletin as page 101.

FIELD NOTES.

Umatilla.

During the week of November 4, the minimum temperature recorded was 17°, maximum 66°; wind velocity: lowest, 0.53 miles per hour; highest, 9.68.

Yuma.

One hundred and ninety-three pomegranates (C.F.B. No. 7424) have been received from Mr. E. H. Kearney. The pomegranate planting now totals one-half acre of seedlings and named varieties. The purpose in growing the large number of seedlings is to obtain by selection new and promising varieties for this section.

Mr. Scofield left Bard on the 2nd for San Antonio, stopping at Phoenix and Sacaton, Ariz.

Scottsbluff.

During the week of November 11 the remainder of the sugar beets were pulled. The beets are badly frozen, but if the weather continues cold they may be gotten to the dump before called for. On the 11th no outside work was done, the snow and cold weather keeping the force indoors all day. On this day the maximum temperature registered was 20°, minimum - 6°. On the 12th at 7:00 a.m., the thermometer registered 12° below zero.

Mr. Pfaender left the station November 10 for Washington.

18 November, 1911.

FIELD NOTES.

Huntley.

The week of November 4 was taken up with the harvesting of sugar beets. Freezing weather has delayed this work considerably.

Beans and peas in Field A were threshed, with the following yields:

Wisconsin pea beans,	1106	lbs.	per	acre.
Navy beans.....	752	"	"	"
Gondor peas.....	869	"	"	"

Severe freezing weather and snow made outside work impossible during the greater part of the week of November 11. The minimum temperature for the week was -19° . About 5 inches of snow fell on the 9th.

There is still a considerable acreage of beets on the project not harvested.

Umatilla.

The following weather conditions were observed during the week of November 11:

Minimum temperature, 15.5° , maximum, 66° ; wind velocity: lowest, 2.07 miles; highest, 23.42 miles; precipitation, 0.18 inch.

Mr. Allen left during the week for Washington.

Truckee-Carson.

During the week of November 11 the minimum temperature registered was 15° , maximum 37° . A very high wind blew for two days and nights, November 9 and 10, recording an average for 24 hours on the 10th of 18.4 miles. There was also a trace of sleet and snow on the 10th.

One hundred Troutman and one hundred Bolton orchard heaters have been received at the station.

Mr. F. H. Newell, Director of the Reclamation Service, and Prof. Shaw of the University of California, visited the station during the week.

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UNITED STATES DEPARTMENT OF AGRICULTURE,
OFFICE OF THE SECRETARY,
WASHINGTON, D. C.

AMENDMENTS TO THE FISCAL REGULATIONS.

October 24, 1911.

GENERAL ORDER No. 148.

The Fiscal Regulations are hereby amended as follows:

- Paragraph 9-B.** Charges for extra baggage will not be allowed except in cases where the extra weight consists of public property, or private property to be used for public purposes, and must always be explained and supported by subvouchers when practicable.
- Paragraph 9-E.** Subvouchers for subsistence supplies must also show the period covered by the supplies.
- Paragraph 9-F.** Transfer of self and baggage—street car, transfer coach, omnibus, cab, carriage, taxicab, or automobile fares, and transfer of baggage between depots and hotels or residences: A fare of not to exceed 50 cents for transfer of self, and a charge of not to exceed 50 cents for transfer of each piece of baggage, if within the legal rates, will be allowed; payments in excess of these rates must be explained in writing. Transfers between hotels will only be allowed when satisfactorily explained.
- Paragraph 9-G.** Checking and portorage of baggage at hotels and depots, not to exceed 10 cents for each piece checked. A charge for hotel porter at official station or temporary headquarters will not be allowed.
- Paragraph 9-O.** Charges for Pullman chair-car service must show the points between which it is used, and where Pullman berth is used, it must also be shown whether upper or lower.
- Paragraph 14-B.** Where cash fares on railroads have been made, the initials of all railroads traveled upon must be stated, and the points between which the travel is performed must be shown.
- Paragraph 14-C.** Subvouchers must also be furnished for towel service, gas, electricity, and post-office box rent.
- Paragraph 14-E.** Suspended items resubmitted in a separate account, and unaccompanied by other items, need not be sworn to.
- Paragraph 17.** Street-car fares at official stations can not be allowed employees on the statutory roll, except where it is shown the expense was incurred in the transportation of Government property, and must be authorized specifically in advance.
- Storage charges on baggage to avoid frequent transfers may be allowed when explained.
- Paragraph 20.** Unauthorized items: Items of expenditure appearing in traveling expense accounts, having no apparent relation to the usual and customary expenses of travel, must be specifically authorized before payment can be made therefor. If not provided for in the instructions, reference to such items should be made in a letter accompanying the account, with explanation as to their necessity.
- Paragraph 54.** Express shipments between points outside of Washington not made on Government bill of lading must be paid for by the employee shipping same, and included in his expense account. Receipts for express charges paid must show the points between which the shipment moved, a brief description of contents, the separate weight of each package composing the shipment, and the amount of charges paid.
- Paragraph 79.** Expense accounts covering a specific trip may be rendered at the end of the trip without waiting for the end of the month.

JAMES WILSON,
Secretary of Agriculture.

25 November, 1911.

PROPERTY, DISPOSAL OF.

Administrative Notes and News, No. 2, November 14, 1911, pages 11 and 12, "Disposition of Crops grown Experimentally".

"There appears to be some misunderstanding regarding the disposition of crops grown experimentally by the Bureau. A recent case will illustrate the point. A plot of twenty acres was rented by the Bureau and planted to a certain crop, the seed and expenses of planting and caring for the crop for the first two or three months being borne by the Bureau. Desiring to be relieved of the necessity for furnishing the labor, etc., for the remainder of the season, the question was raised as to whether an arrangement could be entered into with a cooperating agency whereby the cooperator would furnish the labor for the balance of the season, to be paid for out of the sale of the crop, any balance remaining from the sale of the crop after paying for the labor to be left in the hands of the cooperator to cover the cost of labor next spring in connection with further experiments.

Any such arrangement, it is believed, would not be lawful, as the crop in such case would be the property of the Government, having been grown on Government land (held under lease), and when disposed of the money would have to be turned in to the Treasury in accordance with the law (Revised Statutes 316, 317, and 318).

An entirely different situation arises where under an agreement the cooperating agency agrees to furnish the land, labor, etc., in consideration for receiving seed, advice, and direction from the Bureau. In such an instance the products grown are not the property of the Government, hence there is no difficulty as to their disposition.

It is highly advisable in all cases where co-operative experiments are to be carried on, to have a definite memorandum of understanding before the inauguration of the work, and thus avoid any difficulties that might otherwise arise."

INFORMAL BIDS

Administrative Notes and News No. 2, November 14, 1911, page 8, "Method of Obtaining Bids in the Field."

* * * * *

"It should be noted that the officer calling for such informal bids in the field should follow the regular procedure of having the bids formally opened at a stated time in order that no question can possibly be raised by disappointed bidders".

LAUNDRY CHARGES ON EXPERIMENT FARMS.

It is considered that the laundry of bed linen, towels, etc., used by official visitors to experiment farms is a proper charge against Department funds which may be paid under letters of authorization. The laundry of bed linen and towels used by the regular participants in the mess should be paid for from mess funds. Where no mess is maintained this charge should be paid by the individuals benefited.

C. S. SCOFIELD.

San Antonio.

During the week of November 18, rotation plots A5-8, A5-12, and A5-16 were plowed and planted to oats.

On Monday Canada field peas were drilled in the orchards on Field A1, D3, and a portion of B3.

One hundred and eighty plants of seedling pomegranates were received from Mr. T. H. Kearney and placed in pots in the greenhouse until spring. Also, 56 plants of Elaeagnus umbellata were received and set in a hedge row on the west edge of

25 November, 1911.

FIELD NOTES.

San Antonio (continued).

A3. Flats of various seeds were planted in the greenhouse.

Mr. Letteer spent practically the entire week taking soil moisture samples and computing the results.

Messrs. Scofield and Doyle spent the first four days of the week at the farm, leaving for Washington on the night of the 15th.

Messrs. Cook and Marshall returned from Yuma the night of the 17th.

Huntley.

During the week of November 18 but little outside work could be done because of severe freezing weather and the ground being covered with snow.

The unusually early cold weather has caught a good many of the farmers with their crops still in the ground. On the project some 100 acres of beets remain unharvested and in a great many cases potatoes have not yet been dug.

Umatilla.

During the week of November 18 the minimum temperature recorded was 16°, maximum 60°; wind velocity, lowest 0.65 miles, highest, 12.26; precipitation, 0.28".

WEATHER RECORDS.

It is the custom at the Truckee-Carson Farm to compile monthly a table of weather records, showing the mean temperature, maximum temperature, minimum temperature, rainfall, average wind velocity, days clear, days partly cloudy, and days cloudy, with comparisons for the same month of the previous year and the 5-year average. This table is furnished to the local newspapers for publication and a copy sent to the Washington office.

It is believed that similar data from all our farms would be of considerable interest, and it is suggested that such tables be prepared and sent in at the end of each month for publication in the Weekly Bulletin.

THOMSON-ALLEN.

Married, November 8, 1911, at the bride's home near Echo, Oregon, Miss Aura A. Thomson and Mr. R. W. Allen.

PERSONAL.

Messrs. Scofield and Doyle returned to Washington November 20, after a two months' trip in the field.

Mr. R. W. Allen, of the Umatilla Farm, reported at the Washington office November 20.

Prof. S. C. Mason is at present in the Southwest, to be gone until the holidays.

Mr. Thomas Cooper, of Minnesota, visited the Department November 25.

FIELD NOTES.

Umatilla.

During the week of November 25 the minimum temperature registered was 17.5° , maximum 61.5° ; wind velocity: lowest, 0.09 miles per hour, highest, 16.48.

Sacaton.

Mr. W. E. Townsend, cotton gin expert, reports under date of November 26 that during the previous week he had ginned five bales of cotton, making nine ginned and baled to date. Trouble with the gin roller was delaying matters somewhat, but Mr. Townsend expected to get out five more bales during the present week.

Truckee-Carson.

During the week of November 18 the minimum temperature was 9° , maximum 63° .

The cement foundation for the proposed greenhouse has been completed.

A sample of sugar beet was sent to Prof. Dinsmore, of the University of Nevada, on which he gives result of analysis as follows: Sugar in juice, 16.6%; sugar in beet, 15.77%; purity, 85.15%.

The hill in front of the Superintendent's house along the main road is being pulled down to fill in a low place in front of the office and laboratory.

San Antonio.

During the week of November 25 Canada field peas were planted in the orchard on A3-1 and a portion of B3.

At the present time there are being propagated in the greenhouse 84 different species, most of these being either shrubs or trees. Forty of these are fruits and forty-four ornamentals. Of the total lot,

FIELD NOTES.

San Antonio, continued.

35 represent promising species of collections from the native flora within a radius of 200 miles of San Antonio. The list also includes 15 exotics.

Messrs. Cook and Kinsler spent two days at the station in the early part of the week.

Eight plats on the rotation fields were manured during the week, the manure being put on at the rate of approximately 16 tons to the acre.

Yuma.

Some 5,000 cuttings have been made from desirable first generation hybrid cotton plants for planting next spring. These cuttings have been heeled in moist sand, some outside, but mostly in the basement; a part in alternate layers of cuttings and sand, and a part in bundles. Hybrid cotton roots were also heeled in and some plants were bent over and covered in the field. About 1,200 cuttings will be planted in the field at regular planting distance. The purpose of these experiments is to try to find some method of propagating, on a commercial scale, desirable first generation hybrid cotton plants.

Harold Bell Wright, author of "The Shepherd of the Hills" visited the station during the week of November 18.

Messrs. Cook and Marshall left on the 15th for Texas points.

9 December, 1911.

ON THE SUBMISSION OF VOUCHERS.

In submitting vouchers, either Form A or Form 3, they should be filled out; then signed by the claimant; then signed by the farm superintendent and mailed by him to this office. This sequence is important and should be followed implicitly.

On receipt of this notice, each farm superintendent will please write me to say whether or not there is any objection to using this sequence in all cases.

C. S. SCOFFIELD.

FIELD NOTES.

Sacaton.

During the week of December 2, Mr. Townsend ginned out four bales of cotton, making thirteen bales to date. Mr. Townsend left Sacaton on the 4th for Yuma and will finish his work at the latter place before returning to Sacaton.

Huntley.

Frozen ground permitted but little outside work during the week of December 3, but part of the week was devoted to collecting soil samples from the Worden tract.

The maximum temperature recorded during the week was 52°, minimum 5° below zero.

San Antonio.

The final picking of cotton on AB-8 was made on the 27th.

During the latter part of the week of December 2, about one-half mile of fence was constructed along the east side of the farm next to the sewer ditch, the material being furnished by the San Antonio Irrigation Company.

Beginning with the 28th, a minimum temperature of 17° was recorded, and on the 30th 15°. This establishes a new record for November. As the temperature for the past month has been cool, maturing

9 December, 1911.

FIELD NOTES.

San Antonio (continued)

the wood, it is not expected that an extensive damage has been done to the tender fruit trees.

Yuma.

In order to complete the bulk of the cotton picking as soon as possible, ten Mexicans were employed during the week of November 25.

Two 4-horse teams were also hired for leveling land. One of them is being worked on C-6 to 9, and the other on the roadway around the farm, preparatory to fence construction.

The second picking of the replicate cotton rows has been completed. A light third picking will be made the first part of December.

The preparation of cuttings and roots for a vegetative propagation of first generation cotton plants has been completed. A number of plants were covered in the field, a few with soil and a few with burlap and stalks.

Mr. McLachlan left the station on the 25th for Washington, stopping enroute at Victoria, Texas.

Truckee-Carson.

During the week of November 25, the maximum temperature recorded was 60°, minimum 7°.

The first carload of sugar beets were sent to the factory, although the machinery had not yet been completely installed.

On five evenings of the week illustrated lectures were given at five school houses in the project by Prof. Gordon H. True, of the University of Nevada, and Mr. Vincent Fulkerson, of the Truckee-Carson Farm. Prof. True's subject was "What is a Dairy Cow?" and Mr. Fulkerson spoke on "Horticulture in the Truckee-Carson Project". The station stereopticon was used to good effect and considerable interest was shown by good audiences at all the meetings.

During the week of December 2 the maximum temperature was 53°, minimum 8°. But a trace of rainfall was recorded during the month of November.

DELTA EXPERIMENT FARM.

The Delta Association of California is an association of owners of reclaimed land in the delta of the San Joaquin and Sacramento rivers in California. Cooperative arrangements have been made with this association with a view to operating as an experiment farm a fifty-acre tract of land near the station of Middle River, on the Santa Fe Railroad and between Stockton and Antioch.

This experiment farm will be under the supervision of Mr. John P. Irish, Jr., the land, buildings, teams, labor, and equipment being furnished by the Delta Association. It is expected to begin active operations on this experiment farm in January, 1912. Mr. Irish is making his headquarters in Stockton, where his address is P. O. Box 832.

FIELD NOTES.

Yuma.

During the week of December 2, the leveling of land and hauling of gravel was continued.

The picking of hybrid cotton is nearly complete. This picking was rendered very tedious and difficult by the abnormal wind experienced during the week.

A temperature of 28° F., on November 28 killed all cotton not previously killed by the 32° minimum on the 13th. The leaves of the figs, bamboo, cannas, etc., were frozen. The carobs and date palms were not affected. Several of the carob and bamboo plants have been wrapped for winter protection.

16 December, 1911.

FIELD NOTES.

Umatilla.

During the week of December 2 the maximum temperature recorded was 55.75°; minimum, 12°. Wind velocity: Lowest, 0.66 miles per hour; highest, 4.22.

On December 1 the station started to keep a daily record of the days clear, days partly cloudy, and days cloudy; this data to be reported at the end of the month, in accordance with the suggestion contained in the Weekly Bulletin of November 25.

During the week of December 9 a small strip of ground in Field J was leveled and sown to rye. All of the disturbed surface was covered with a thin coat of manure to prevent blowing.

The maximum temperature for the week was 55°; minimum, 12.25. The highest wind velocity was 12.8 miles per hour; lowest, 0.66.

San Antonio.

During the week of December 9 twenty-one plats in the rotation fields were plowed, and the cotton stalks on two plats were plowed under.

The severe cold spell during the latter part of November, when the temperature went down to 15°, did comparatively little damage. The Canada field peas in the orchards were not damaged, nor were the oats on the rotation plats. The olives, pomegranates, figs, and the hardier varieties of citranges were not noticeably affected. The oranges, lemons, and tenderer varieties of citrus, the *Sesbania* spp., and bamboos were apparently killed to the ground.

Mr. Letteer has spent the greater part of the last two weeks working up the results from the soil moisture work of the past year, with special reference to the 4th, 5th, and 6th feet. From the data from 39 plats it is found that the moisture of the 4-6 feet in July, August, and September is 0.21% less than on the same plats in February, March, and April.

23 December, 1911.

CORRESPONDENCE.

This office has had printed and will send out a supply of letter-heads on thin paper for each of the farms. These are for use in making carbon copies of outgoing letters in accordance with Circular Letter No. 41, dated October 16, 1909.

FIELD NOTES.

Yuma.

Mr. Townsend returned from Sacaton on the 4th and resumed cotton ginning. The ginning is nearly completed. From this year's crop there have been ginned to date four bales of Egyptian, one bale of short staple hybrid, one-half bale of long staple hybrid, and two small bales of Egyptian for Mr. Firtle. From 3130 pounds of seed cotton Mr. Firtle received 900 pounds of lint, after deducting bagging and ties. This gives a percentage of 28.75.

Mr. Peterson visited the Imperial Development Company's ranch in Mexico on Sunday, consulting with the manager concerning the proposed 1912 planting of Egyptian cotton. The Company purposes planting 1000 acres to Egyptian cotton in 1912, though it is doubtful if such a large area can be gotten in readiness for planting. On Monday he consulted with the Horticultural Commissioner of Imperial county regarding the appointment of a deputy to inspect all nursery stock consigned to San Pascual Valley, and recommended Mr. W. E. Henson for the position. It is anticipated that a large number of fruit trees will be planted in this vicinity next spring, rendering it essential that there be a local inspector.

23 December, 1911.

FIELD NOTES.

Truckee-Carson.

During the week of December 9 the maximum temperature registered was 56°, minimum 13°. A rainfall of 0.07 inch was recorded on the night of December 6.

The winter supply of firewood has been purchased and an apparatus has been rigged up by which the wood can be sawed by hand-power, using a straight four-foot cross-cut saw.

The hotbeds have been cleaned out and new soil put in, in preparation for the spring seeding.

GRAIN SORGHUM AT SAN ANTONIO.

Galley proof of Bulletin No 237, "Grain Sorghum Production in the San Antonio Region of Texas", by Carleton B. Ball and S. H. Hastings, has been received and returned to the printer.

LABOR RECORDS.

Mr. John T. Thomas has been appointed Clerk in the Washington office, by transfer from the Navy Department. Mr. Thomas will be put in charge of the labor records, under the direction of Mr. Aune, with a view to bringing them up to date. Farm superintendents will be kept in touch with the progress of the work and advised of any proposed changes in the manner of reporting labor.

PERSONAL.

Messrs. Hansen and Spain reported at the Washington office on the 18th.

Mr. Allen left Washington on the 20th for Umatilla, via Colorado.

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PROGRESS IN RECLAMATION.

Mr. F. H. Newell has published in the Smithsonian Report for 1910 a paper on the "Progress in Reclamation of Arid Lands in the Western United States". Advance copies of this report have been issued, and if it is possible to secure them through this office for distribution, copies will be mailed to the farm superintendents.

FIELD NOTES.

Sacaton.

Mr. Townsend returned to Sacaton on the 14th, finished up his cotton baling, and left for the East on the 23rd.

Umatilla.

During the week of December 16 the minimum temperature registered was 16.5°, maximum, 55°; wind velocity: lowest, 0.86 miles per hour; highest, 11.5 miles; precipitation, 0.155 inch.

The week was devoted to grading and covering roads near the house and office to prevent blowing; hauling hay; and miscellaneous work.

San Antonio.

The plowing of the rotation plats was completed during the early part of the week of December 16.

The brush along the Corpus Christi road was grubbed out on both sides of the fence, and several plats in the rotation fields were graded.

The 1/10 acre plat of sugar cane on D3 was hauled in and weighed, giving a yield of 11.95 tons per acre. A part of one row was planted to a new variety of this crop received from Prof. Tracey, of Biloxi, Miss.

30 December, 1911.

FIELD NOTES.

San Antonio (continued)

On the 12th sixty-four varieties of Canada field peas were planted on A3-1 in 2-rod rows. Also two 1/10 acre plats in the same field were planted with the rows 3 feet apart, and the other in 6-inch drills.

Truckee-Carson.

Some of the work horses on the Experiment Farm have been continually troubled with sore shoulders, which were found practically impossible to heal while using ordinary collars. For this reason one Whipple Humane collar and one Johnston-Slocum zinc collar were purchased for the purpose of determining their value in healing sore shoulders, as each company guarantees that sore shoulders will heal while using their collars. These collars have been tried for one week and have given satisfaction, but of course not enough time has elapsed to fully determine whether or not the shoulders will heal permanently.

The maximum temperature recorded during the week of December 16 was 54°, minimum 7°.

Yuma.

Gravel hauling and land leveling, as reported the previous week, has been continued, and the fourth picking of the replicate cotton rows is nearly completed.

Mr. Townsend completed the cotton ginning on the 11th. He accompanied Mr. W. A. Peterson on a trip to Brawley, in the Imperial Valley, on the 12th, to observe the operation of the Universal Fiber Gin, a roller gin which appears to be well adapted to the ginning of long staple cotton. This gin requires less power to run, has greater capacity, and injures the seed less than the Platt Roller Gin. It gins Upland cotton well, but with less rapidity. The automatic feeding device and seed conveyors minimize the labor cost of operation. Mr. Townsend is of the opinion that it is not heavily enough constructed for commercial ginning.

Low minimum temperatures prevailed during the

30 December, 1911.

FIELD NOTES.

Yuma (Continued)

past two weeks; the coldest being 22° , on the night of the 11th. The leaves and apparently the culms of the bamboos were killed; also carob trees and other tender plants.

San Antonio.

Owing to unfavorable weather conditions, little field work was done during the week of December 25.

Several showers occurred during the week, amounting to 0.40 inch. Owing to continued cloudiness, there was but little variation in the temperature. The maximum was 59° , minimum 27° , while the mean temperature for the week was 47.5° .

6 January, 1912.

BUILDINGS ON FIELD STATIONS.

The following bill was introduced in the House January 3, 1912, by Representative Martin, of South Dakota, and referred to the Committee on Agriculture:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the money already appropriated for 'General Expenses, Bureau of Plant Industry, fiscal year 1912', is hereby made available for the erection of necessary farm buildings, provided the cost of any building erected shall not exceed one thousand five hundred dollars, and for field station expenses, including fences, drains, and other farm improvements.

HEATING AND LIGHTING ON EXPERIMENT FARMS.

The expense for heating or lighting rooms or buildings used for official purposes, such as offices, laboratory, greenhouses, and guest rooms for official transients, will be paid from government funds. Fuel, oil, gasoline, and the like for use in cooking and in heating or lighting rooms or buildings used exclusively by men regularly stationed at the experiment farms must be paid for from mess funds or by the individuals benefited; the superintendent to make such arrangements to this end as may seem to be just and equitable and best adapted to the circumstances. Where light is supplied from a central plant, some arrangement should be made for pro-rating the cost of light used for other than official purposes.

C. S. SCOFIELD.

GRAIN-SORGHUM AT SAN ANTONIO.

Page proof of E. F. I. Bulletin No. 237, "Grain-Sorghum Production in the San Antonio Region of Texas", by C. R. Ball and S. H. Hastings, has been received from the Government Printing Office.

FIELD NOTES.

Williston.

The week of December 30 was very cold, the temperature ranging from 6 to 30 degrees below zero all the week.

Truckee-Carson.

The maximum temperature recorded during the week of December 23 was 45°, minimum 2°. A half inch of snow fell on the night of the 23rd. The lowest temperature of the season was recorded this week, resulting in the freezing up of the water system.

Umatilla.

No field work was done at Umatilla during the week of December 23. The maximum temperature for the week was 54°, minimum 17°. The wind velocity ranged from 17.875 to 0.93 miles per hour. Precipitation was approximately 0.15 inch.

WEATHER RECORDS.

For the sake of uniformity and convenience, it is suggested that the monthly table of weather records called for in the Weekly Bulletin of November 25, 1911, be made up in form somewhat as follows:

COMPARATIVE WEATHER RECORDS FOR.....

..... Experiment Farm.

	: 1912.	: 1911.	: 5-Year Average.	:
Mean Temperature	:	:	:	:
Maximum Temperature	:	:	:	:
Minimum Temperature	:	:	:	:
Rainfall	:	:	:	:
Average Wind Velocity:	:	:	:	:
Days Clear	:	:	:	:
Days Partly Cloudy	:	:	:	:
Days Cloudy	:	:	:	:

13 January, 1912.

VOUCHERS.

Many of the vouchers received from our field stations are not fully itemized, lack desirable or even necessary explanatory notes or remarks, or contain slight errors or inaccuracies. It is hoped that mention of the commoner forms of error may result in improvement.

(1) Items should be stated so as to show definitely and clearly the quantity and nature of all services and supplies.

Sometimes items are not stated exactly and the real nature of the expenditure can only be inferred. For instance, items for shoeing horses are occasionally listed "4 shoes", or "1 horse, 4 shoes". A better form would be "Shoeing 1 horse, 4 new shoes, @ 50¢ per shoe (horse government property)", or "Shoeing 1 horse, 4 shoes reset, @ 25¢ per shoe (horse government property)". One entry "One team and wagon, round trip" has been found upon investigation to be intended to cover a charge for ferrying. Such items as "one box" or "one package" of such and such an article are sometimes listed without information as to size, weight, or quantity, which is essential.

(2) Items requiring explanatory notes are seldom explained.

Articles purchased for the use of the mess should be listed in an informal memorandum attached to the voucher on which they are billed. The memorandum is for use in this office as the basis for a special statement which must be attached to all vouchers covering the purchase of supplies for use by the mess.

Items for repairs must carry a definite statement, either on the face of the voucher or on an attached sheet, to the effect that the repairs were made to government property. Where horses are shod or veterinary services or medicines are secured, a statement should be made that the horses shod or treated are government property.

The purpose of purchases which would not appear to be covered by the authorization under which they are made or which might easily be converted to personal use should be explained. Examples of items of this kind are: Drugs, ordinarily used as human medicine, purchased for use on horses; rubber boots, bought to be kept in stock and issued for use in ir-

13 January, 1912.

(Vouchers continued).

rigating; molasses, secured to form the basis of a mixture for poisoning prairie dogs; and guns and ammunition, for use in killing birds and animals injuring the crops.

(3) Where services or supplies are secured on a rate basis, the rate and rate unit should be given. Where supplies are purchased by the lot, the words "For the lot" should be used in place of the rate.

One voucher on which all items were measured in pounds quoted rates based on pound, 100-pound, and ten lots, without indicating in any case the quantity on which the rate was based.

(4) The date of the authorization should always follow its number on vouchers of all forms.

(5) On Form 3 vouchers and pay rolls, under "Remarks", it should not be indicated that an employe was on leave without pay unless he actually secured leave without pay in the proper way and upon the regular form. Otherwise, the remarks should be, "Not employed", "Did not work", or the like, upon such and such dates.

(6) The blanks on the back of Form A vouchers, for use in indicating the method of advertising and the form of agreement, should be filled out by the person who makes out the voucher, instead of leaving this to be inserted by some one who is not familiar with the facts in the case.

13 January, 1912.

FIELD NOTES.

Williston.

During the week of January 6 the weather continued cold and stormy, making outdoor work slow and difficult. During the week Mr. Hawley planned two rumming plants for settlers on the project.

Huntley.

The maximum temperature recorded during the week of January 6 was 24°, minimum 29° below zero; precipitation, 0.12 inch (snow).

Umatilla.

Mr. Allen arrived at the station December 30 and left the same day for Corvallis to report at the office there.

During the week of December 30 the maximum temperature recorded was 53°, minimum 17°. The precipitation for the week was 0.065 inch. Wind velocity: highest, 15.85 miles per day, lowest 0.875 miles.

In his monthly weather report Mr. Allen gives the following data for December:

Maximum temperature	55°
Minimum temperature	13°
Mean temperature	13.68°
Rainfall (approx.)	0.51 in.
Aver. wind velocity	116.1 miles per day.
Days clear	7
Days cloudy	11
Days partly cloudy	15

Yuma.

Two 4-horse teams in addition to the farm team have been employed in leveling C-6 to 9, D-6 to 9, and the roadway around the farm. The grading of the public road and the farm road on the east side has been completed, leaving it in excellent condition for irrigation. This leveling has proved rather expensive on account of the long hauls necessary to make some fills.

The cotton picking has been completed for the season.

13 January, 1912.

FIELD NOTES.

(Yuma continued).

The month of December was the coldest recorded during the 35 years that records have been kept at Yuma. A minimum of 16° was recorded on the Yuma Farm on the morning of the 26th. The maximum for the month was 79° . Rainfall for 1911, 3.56 inches; evaporation, 87.45. Date palms were practically uninjured by the 16° minimum.

Monthly climatological reports will be submitted to the Yuma papers for publication.

Truckee-Carson.

Mr. S. F. Fergusson of the University of Nevada visited the station during the week of December 30, to look over the meteorograph which the University has there.

The maximum temperature recorded during the week was 46° , minimum -3° .

The weather record for December follows:

Mean temperature, 27.50 ; maximum, 56 ; minimum, -3 ; rainfall, 0.16 ; average wind velocity, 2.84 ; days clear 20; days partly cloudy, 8; days cloudy, 9.

San Antonio.

The weather record for December is as follows:

Maximum temperature, 76° ; minimum, 19; greatest daily range, 44; rainfall, 1.53 in.; clear days, 8; cloudy days, 13; partly cloudy days, 10.

The following table gives the precipitation for December, 1911, in comparison with figures for the same month of the preceding five years.

1911..... 1.53 in.

1906..... 1.08

1907..... .64

1908..... 1.50

1909..... 1.95

1910..... 1.74

20 January, 1912.

EGYPTIAN COTTON EXTENSION.

Mr. Argyle McLachlan has been transferred from the office of Crop Acclimatization to the office of Western Agricultural Extension and will be detailed for the coming season in charge of the commercial establishment of Egyptian cotton culture in Arizona and California. It is expected that he will be at Bard by February 1.

BOARDS OF SURVEY.

In order to provide for the disposal of certain products grown on some of our experiment farms, arrangements have been made for establishing boards of survey at Bard and Huntley. These boards of survey are composed in each case of three members of the working force of the farm office, and are empowered to sell government property or the products of experiment farms and transmit the proceeds to the Disbursing Officer of the Department for deposit in the Treasury.

EXPRESS.

Arrangements have been made with the various express companies whereby their agents will turn over to our farm superintendents express shipments on which there are charges without collecting the cash. The agents will forward the necessary data to their general officers, who will include such charges as items on their regular bills to this Department.

Whenever a liability is incurred under this arrangement, this office should be notified at once and the shipment described — that is, its weight and contents should be named, as well as the consignee and consignor, point of origin, destination, and the amount of the liability.

20 January, 1912..

FIELD NOTES..

San Antonio

Flowing of AB8 was finished the early part of the week of January 6, and the north end of C3, in cotton last year, was plowed.

On the 2nd several varieties of citranges received from the Glen St. Mary Nurseries were planted.

Cold northeast winds prevailed during the greater part of the week. There was frost on the 4th and an unusually severe norther came on the 6th.

During the week of January 13 the weather was very changeable, the maximum temperature being 78 and the minimum 16.5. The maximum range occurred on the 11th and 12th — 58° in less than twenty hours. Early in the morning of the 11th sleet fell so that at daylight the ground was white with snow, which remained several hours.

Messrs. G. A. and A. G. Schattenberg visited the station on the 8th, and Mr. G. F. Rixford on the 11th.

Yuma.

Two 4-horse teams have been employed in leveling a 45-foot strip on the south side of the farm for fence and roadway. Plats B-25 to 32 are also being leveled, the farm stock being used for this purpose. The cotton stalks have been cut and burned. These plats are being plowed in preparation for spring planting.

All willows in the low land in Series B have been grubbed. A start has been made in eradicating Bermuda grass. This work will be continued until all Bermuda grass patches have been destroyed or as nearly so as can be done at this season.

During the week of January 6 the minimum temperature was 18°, maximum 68°, mean 43.86.

Williston.

The week of January 14 was the coldest of the year, the minimum temperature being 44° below zero.

FIELD NOTES.

Umatilla.

During the week of January 13 the maximum temperature was 43°, minimum 18° below zero. The rainfall was 0.495 inch. Wind velocity: Highest 11.62 miles per hour; lowest 0.45.

Huntley.

During the week of January 13 the maximum temperature was 42°, minimum - 35°; precipitation, 0.05. Chinook wind started on the 11th and continued throughout the week.

Truckee-Carson.

During the week of January 6 the maximum temperature recorded was 38°, on the 6th; minimum - 7°, on the 5th.

As a result of the long period of cold weather, the water system has frozen and several days were spent in thawing out the pipes.

A large order for fruit tree seedlings has been placed with an eastern nursery.

The machinery has been completely installed in the sugar factory and the work of making sugar begun.

27 January, 1912.

LABOR REPORTS.

The work of posting the labor records from the experiment farms has been resumed in the Washington office. It has been found desirable to adopt a formal classification of operations reported under "Kind of Work" on the daily labor record (Form No. 12). This classification is given below. It is not intended that this classification shall be followed rigidly and exclusively in reporting the labor, but it will be so used in posting the reports here. It is very desirable to have the kind of work reported explicitly, and for that reason it is probably not desirable to limit the items reported to those shown in the classification. But it would aid in the proper posting of the reports if the superintendents would keep this classification before them in making out the reports and in any ambiguous cases would indicate which place in the classifications the item should be charged.

In reporting labor in the past it has been customary to list the items so as to bring together the different operations performed each day by each laborer; sometimes repeating the operations several times in one report. That method makes the posting of the reports rather more complicated than would be the case if the operations were grouped where more than one person is engaged in the same operation, setting opposite each entry the initials of the laborer and the number of hours engaged. Where the superintendents find it feasible to use the latter method, it will tend to simplify the office work.

The word "General" should be used as little as possible in reporting labor and in every case it should be explained, showing clearly what is included, and indicating what main heading these items should be posted under.

(Labor Reports continued)

I. MACHINERY.

Constructing, repairs, remodeling, cleaning, setting up, painting.

II. HORSES.

Hauling (feed, hay, manure), care, shoeing, Harness (repair, cleaning, or oiling), clipping.

III. EQUIPMENT, OPERATION, AND MAINTENANCE.

Buildings, fences, irrigation system, grounds, roads and alleys, water system, clearing, leveling, surveying, field stakes.

IV. OFFICE.

Correspondence, clipping extracts, photographic work, collecting plants, travel, outside cooperative work, visitors, general.

V. FIELD OPERATIONS.

Flowing, irrigating, disking, harrowing, planting, cultivating, harvesting, threshing, hauling, manuring, spraying, pruning, husking, mowing, raking, cocking, leveling, ginning.

VI. MISCELLANEOUS.

Marketing, cleaning seed, supplies, general, soil and ground water observations.

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1. The first part of the report deals with the general situation of the country and the progress of the work during the year.

2. The second part deals with the results of the work done during the year.

3. The third part deals with the conclusions drawn from the work done during the year.

4. The fourth part deals with the recommendations for the future work.

5. The fifth part deals with the summary of the work done during the year.

6. The sixth part deals with the conclusions drawn from the work done during the year.

7. The seventh part deals with the recommendations for the future work.

8. The eighth part deals with the summary of the work done during the year.

9. The ninth part deals with the conclusions drawn from the work done during the year.

10. The tenth part deals with the recommendations for the future work.

27 January, 1912.

(Labor Reports continued).

EXPLANATORY NOTES.

I. MACHINERY.

Hauling machinery to the farm will be charged against "Supplies", MISCELLANEOUS Account.

II. HORSES.

The care of horses should not be reported unless done during the regular working hours.

III. EQUIPMENT, OPERATION, AND MAINTENANCE.

All construction, operation, and maintenance of buildings, fences, irrigation systems, field roads and alleys, water systems for the buildings, leveling and clearing new land and grounds (lawn and ornamental planting) are to be charged to this account under the different subheads. The leveling of new land with fresnos or scrapers is to be charged to this account, rather than to FIELD OPERATIONS, but in reporting such work the field location should be shown.

V. FIELD OPERATIONS.

Where a field or series is used for one crop, all operations are to be charged against such a field or series, regardless of plats; but where plats are used to grow different crops or with different cultural methods, they are charged separately and should be reported by plats.

In rotation experiments, each field operation in most cases would be done by plats, but in variety testing and other field work cases will frequently occur where the field or series is plowed, disked or harrowed, etc., including all field operations, before planting. In such cases the work will be charged against the field or series, and where the field or series is later divided into plats the work must be reported by plats and all work done previous to planting will be apportioned among

27 January, 1912.

(Labor Reports continued)

the plats in the field or series.

It is desired to keep a labor charge against each crop on the different farms and a special note should be made by superintendents when the operations for one crop are finished and those for the next begun. It might be considered that the field operation is completed when the crop is removed from the field, series or plat. Any other work, such as threshing or marketing to be apportioned to the field, series or plat on which it was grown. The final leveling of land after plowing or disking should be considered as a field operation and charged directly to field, series or plat, while the initial leveling or grading is charged in Class III.

C. S. SCOTFIELD.

WATER FOR SCHOOL GROUNDS.

The following letter is self-explanatory. It will be well for superintendents to encourage improvement of school grounds by suggesting plans of planting and aiding in securing material for planting:

"U. S. RECLAMATION SERVICE,
Washington, D. C.

January 4, 1912.

The Honorable,

The Secretary of the Interior.

Sir:

This office is in receipt of a letter from the Bureau of Plant Industry, Department of Agriculture, calling attention to the fact that the school grounds around country school houses on certain reclamation projects do not have water for irrigation. That said Bureau has been planning some cooperative work through these schools and feels that it would be a great advantage to all concerned if these school grounds could be planted with shade

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27 January, 1912.

(Water for school grounds continued)

trees and ornamentals, and asks whether it would be possible for the Reclamation Service to furnish water to these school grounds, possibly under the condition that a certain amount of planting be done and that the grounds be well cared for.

In considering the advisability of furnishing water to the North Dakota Williston Experiment Station, the Department, on May 12, 1909, held that the agencies of the State Government are entitled to become takers of water under reclamation projects upon equitable contribution to cost of the project for the lands benefited.

The schools are in a somewhat different situation from the experiment stations. They are supported by the taxes levied on the people who live in the vicinity, and who at the same time are the ones who pay for the cost of the irrigation works from which the water to be used is obtained, and thus contribute towards the cost of the water furnished the school in any event, there seems to be no good reason why the school should not receive the water, the cost thereof being absorbed in the general charges under the project.

It is therefore recommended that the Reclamation Service be authorized to furnish water without charge for the purposes mentioned by the Bureau of Plant Industry.

Very respectfully,
(Signed) F. H. NEWELL,
Director.

January 11, 1912.
Recommendation approved.

(Signed) SAMUEL ADAMS,
First Assistant Secretary.

27 January, 1912.

"Administrative Notes and News", No. 3, January 20, 1912, page 17, "Improvements at Field Stations."

"An inventory has just been completed showing the improvements which have been made at the expense of the Bureau at the various field stations operated by it, including buildings, greenhouses, fences, etc. Hereafter an inventory of such improvements will be called for each year at the time of the regular inventory of supplies, furniture. Special forms have been prepared for the purpose.

"Administrative Notes and News" No. 3, January 20, 1912, page 15, "Payment of Automobile or Stage Hire".

PAYMENT OF AUTOMOBILE OR STAGE HIRE.

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The following suggestions are offered for the guidance of those whose work necessitates the hiring of automobiles or other conveyances where more than one person is involved.

1. Where a letter of authorization is issued to one party and his assistants to incur expenses, if an account in his own name for expenses incurred and in such account, where the trip has involved the hiring of an automobile for the use of the leader and his assistants, such assistant should note the fact that the automobile hire has been paid by the leader or person under whose letter of authorization he is traveling. This should be done whether the cost of the automobile was so much for the trip or so much for each passenger.

2. Where two or more employees are traveling together, independent of each other, but whose expenses are paid out of the same appropriations, then in the event that an automobile or other conveyance is hired regardless of the number of passengers, one of them should pay the entire charge for the trip, but on the sub-voucher he should show the names of all those who took the trip, and the others should note in their accounts that the cost of the automobile for the trip was paid by----- (The one who pays the expense).

27 January, 1912.

3. Where, however, two or more employees are traveling together, whose expenses are paid from different appropriations and an automobile or other conveyance is hired then separate sub-vouchers should be secured by each for his proportionate amount of the expense.

FIELD NOTES.

Yuma.

Mr. Peterson made a trip to Los Angeles during the week of January 13.

Truckee-Carson.

During the week of January 13 Mr. Headley visited the University of Nevada at Reno and arranged with the agricultural department for some cooperative work in fertilizer experiments with potatoes and variety tests of grain. He also obtained considerable information in regard to the history of the eel-worm in Nevada.

The sugar beet factory has closed down for the year, having used up its supply of beets.

The maximum temperature recorded during the week was 35°, minimum 10°. Precipitation of 0.08 inch, caused by sleet, was recorded.

The radish and lettuce seed planted in the hotbed several weeks ago are doing very nicely.

The trunks of the fruit trees in N-10 were whitewashed to protect against sun scald and injury from borers.

Williston.

During the week of January 20 from 15 to 30 degrees below zero was recorded every day.

Farmers on the project are endeavoring to raise the money to purchase a large quantity of alfalfa seed. Alfalfa hay is now selling for \$15 and \$20 a ton, and the farmers believe it to be a profitable crop to grow.

SALARIES.

A request to the Civil Service Commission to provide for an examination for Farm Teamster has resulted in a statement from the Commission that this Bureau may employ Farm Teamsters up to \$960 per annum without examination.

EGYPTIAN COTTON.

Thirty-three bales of Egyptian cotton grown in the Southwest during the season of 1911 have been sold to the Clark Thread Company, of Newark, N. J., at prices ranging from 20-1/8 to 20-7/8 cents a pound.

THE NEMATODE GALL-WORM.

There is now in course of preparation a paper entitled "The Nematode Gall-Worm on Potatoes and Other Crop Plants", to be issued as a B. P. I. numbered circular. This publication will deal with the subject with special reference to the situation in Nevada, which has become acute by reason of a quarantine against Nevada potatoes by the authorities of the State of California.

1. The first part of the paper is devoted to a discussion of the

theoretical aspects of the problem. It is shown that the

problem is equivalent to a problem in the theory of

the solution of the problem is given in the form of a

3 February, 1912.

A PLANT DISEASE SURVEY IN THE VICINITY OF
SAN ANTONIO; TEXAS.

Under date of January 24 there has been issued Bulletin No. 226, Bureau of Plant Industry, entitled "A Plant Disease Survey in the Vicinity of San Antonio, Texas", by Frederick D. Heald and Frederick A. Wolf. This bulletin is the result of some cooperative work between the office of Cotton and Truck Disease Investigations and the office of Western Agricultural Extension. The bulletin includes 129 pages and 19 plates, giving a detailed discussion of the diseases of native and cultivated plants in the vicinity of San Antonio, and describing many new species. Owing to the fact that this bulletin exceeds 100 pages, the edition is limited to 1,000 copies. It is expected that there will be prepared a popular circular embodying certain features of this bulletin for general distribution.

FIELD NOTES.

Huntley.

During the week of January 20 the maximum temperature recorded was 45°, minimum, -4°; precipitation 0.10.

During the latter part of the week 19½ tons of ice were put up. The cakes measured 22 inches square and weighed on an average 360 pounds.

Truckee-Jarson.

Mr. C. J. Heisey has been appointed for work at the station, and will take detailed charge of field crop work on alkali and adobe soils.

About 200 samples of soil were received from the Reclamation Service to have tested for alkali salt content.

Plans are being made for the organization of a cooperative boarding club to begin on February 1.

The maximum temperature for the week of January 20 was 57°, minimum 16°.

Several bids have been sent to heater manufacturers for estimates on a heating apparatus for the greenhouse.

(Field Notes, continued)

Yuma.

During the week of January 20 the maximum temperature was 81°, minimum 33°.

Mr. Peterson came Thursday and Friday in the Imperial Valley, giving talks before the Farmers' Institute on Egyptian cotton culture.

Mr. G. P. Rixford, of the office of Crop Physiology and Breeding Investigations, visited the station January 14. He was well pleased with the growth which the figs have made during the past summer. Since most of the seedling figs are crosses between desirable varieties which do not require castrification and the Smyrna fig, which does, Mr. Rixford is in favor of postponing the introduction of the blastophaga for two years at least, as he thinks that some of the seedlings have the desirable qualities of the Smyrna and may not require castrification.

Williston.

During the week of January 27 the weather continued cold, with little outside work being done. Mr. Hawley is attending the few meetings being held by the farmers, and during the week delivered an address before an irrigation meeting at Buford. The people are manifesting increasing interest in irrigation, and Mr. Hawley is receiving a good many inquiries from eastern people concerning the irrigated land on the project. Most of the farmers on the project are willing to sell a part of their holdings, as they feel that 160 acres is too much for one man to handle.

Umatilla.

During the week of January 20 the minimum temperature was 47.25°, minimum 20.50°. Wind velocity: highest, 5.27 miles per hour, lowest, 0.70.

During the week of January 27 the maximum temperature was 45.5°, minimum 28°; precipitation .53 in. The snow which fell three weeks ago gradually melted and sank into the ground, doing much good.

THE UNIVERSITY OF CHICAGO
LIBRARY
540 EAST 57TH STREET
CHICAGO, ILL. 60637
TEL. 733-4331

3 February, 1912.

FIELD NOTES.

San Antonio.

Mr. Hastings spent - "30 days of the week of January 20 in Austin, looking up the books in the University and State libraries relating to the early agricultural history of San Antonio, and attending the meeting of the Texas Corn Growers' Association.

The greater part of the week of January 27 was devoted to overhauling and painting tools and cleaning up the grounds and yards.

The weather during the week was mild, with a maximum temperature of 84° and a minimum of 43°.

PERSONAL.

Mr. McLachlan has returned to the Southwest.

Messrs. Knorr and Holden returned to Acottsbuff on the 26th.

Mr. Aune left Washington on the 2nd for Minneapolis and Newell.

COMMITTEES, BUREAU OF PLANT INDUSTRY.

The following is a quotation from a circular letter from the Chief of the Bureau, dated February 7:

"With a view to bringing about closer relationships in the Bureau and for the purpose of giving an opportunity to the Chief and Assistant Chief to keep in more direct touch with all branches of the work, it is proposed to make certain changes in the arrangement and organization of committees. To this end the present Committee on Projects, the Committees on Promotions, and the Committee on Publications will be discontinued and four new committees will be organized and become effective February 15, as follows:

(1) Committee on Local Projects,— Mr. W. A. Orton, Chairman; Dr. R. H. True and Mr. Bradford Knapp.

(2) Committee on Cooperative and Outlying Projects,—Prof. E. C. Chilcott, Chairman; Prof. L. C. Corbett and Mr. O. F. Cook.

(3) Committee on Efficiency and Promotions,— Mr. David Fairchild, Chairman; Mr. M. E. Waite and Prof. W. J. Spillman.

(4) Committee on Publications,— Mr. Carl S. Scofield, Chairman; Mr. K. F. Kellerman and Mr. C. B. Smith."

QUARTERLY REPORT.

The report of progress for the period July 1 to December 31 is now in course of preparation and will be issued within a short time.

10 February, 1912.

EGYPTIAN COTTON NEWS LETTER.

It is proposed that there be issued by the Committee on Cotton Matter a "news letter" for the purpose of circulating among those interested information concerning the work with Egyptian cotton. This news letter will be issued at irregular intervals, when the accumulation of appropriate items of interest seems to warrant.

FIELD NOTES.

Huntley.

Following is the weather record for January:

Mean temperature, 16.6; maximum, 53; minimum, —35; rainfall, 0.27; average wind velocity, 155.6; days clear, 2; days partly cloudy, 25; days cloudy, 4.

Yuma.

With his report for the week ending January 27, Mr. Peterson submits a tabulated statement of the yields from the replicate rows series of the different strains and varieties of Egyptian cotton, which shows a variation in yield of seed cotton from 1472 pounds of Jannovitch imported to 3073 pounds of Hudson's selection, with an average of 2420 pounds of seed cotton per acre. On the basis of 28 per cent of lint, the average yield is 677.6 pounds per acre

Williston.

During the week of February 3 the weather continued cold, and little outside work was done on the project. Mr. Hawley reports that plans are being made for the town of Williston to secure a contract with the Reclamation Service for light from the government power plant. It is believed that such an arrangement would result in reducing the cost of water to the farmers.

10 February, 1912.

FIELD NOTES.

Umatilla.

The maximum temperature for the week of February 3 was 52, minimum 22; precipitation, 0.165 inch; highest wind, 6.45 miles per hour, lowest, 0.78.

Following is the weather record for January:

Mean temperature, 39.65; maximum, 51.25; minimum, — 17.75; rainfall, 2.23; average wind velocity, 2.60 miles per hour; days clear, 3; days partly cloudy, 10; days cloudy, 18.

Truckee-Carson.

The maximum temperature for the week of January 27 was 70°, minimum 20°. High winds occurred on the 24th and 25th, registering an average velocity of 12.9 miles per hour.

Arrangements have been made for carrying on a number of experiments in cooperation with a few selected farmers in different parts of the project. These include an orchard heating test and fertilizer experiment with onions on a ranch in the Island District; fertilizer tests with potatoes at four points in the project; sugar beet tests of varieties and fertilizers in cooperation with the Nevada Beet Sugar Company; and 22 varieties of strawberries will be planted on three ranches. A grain variety and a forage variety test are still to be arranged for. The fertilizers tested will include the following common commercial kinds: Acid fosfate, rock fosfate, muriate of potash, sulfate of potash, Kainit, nitrate of soda, sulfate of ammonia, stable manure, and gypsum. These fertilizers will be tested both single and in combination with one another.

Several large orders for seeds and plants have been placed.

10 February, 1912.

FIELD NOTES.

San Antonio.

During the week of February 3 the orchard on A-1 was sprayed with the lime-sulphur solution. Mr. Collins' fruit trees at Collins' Gardens were also sprayed with the same solution, for the San Jose scale.

A small collection of ornamental trees and shrubs was obtained from the Collins' Gardens and planted about the grounds.

Twenty trees of four hardy varieties of citranges were received from the Glen St. Mary Nurseries. Four of each of the following varieties were planted: Rusk, Cunningham, Morton, and Coleman. One tree of each of these varieties was given to Mr. Collins to grow under irrigation. These plants are budded on sour orange stock.

An experiment has been planned for the testing of a number of varieties of ever-blooming roses, that valuable information may be obtained and distributed regarding varieties best adapted to conditions in and about San Antonio. The rose is an ornamental, very uniformly adapted to South Texas and deserving of careful examination. It has been found that such information is being sought by people who are interested in making home plantings more attractive, and with this in view a comparative test will be started this season.

Another experiment for the testing of decorative and ornamental semi-tropical plants, shrubs, and trees will be begun this season, with special attention given to palms and bamboos, and will largely consist of plants native to south and west Texas, along with some of the most hardy exotic semi-tropical bamboos, yuccas, agaves, etc.

Mr. Elair spent one day during the week in grafting the native mustang grape, which grows along the San Antonio River, with scions of cultivated varieties of American grapes.

Several old plants of the native Prunus texana growing in the sandy land of this section were dug with a ball of earth and transplanted to the farm orchards and greenhouse to be used in hybridizing experiments.

10 February, 1912.

FIELD NOTES.

San Antonio (continued)

A number of peach varieties on field A-1 are in full bloom, but the blossoms were killed by the freeze of February 2. Most of the plums and Mexican seedling peaches are not so far advanced and are still uninjured.

The nine best varieties of Mexican seedling peaches have been assigned numbers 32373 to 32380, inclusive, by the Office of Seed and Plant Introduction. A few of these varieties are being propagated at Chico, Cal., for distribution next February.

The maximum temperature for the week, 75°, occurred February 1; the minimum, 26°, on February 2. The greatest daily range, 44°, was on February 1.

The weather record for January follows:

Mean temperature, 46.5; maximum, 84; minimum, 16.5; rainfall, 0.31; average wind velocity, 3.2 miles; days clear, 10; days partly cloudy, 12; days cloudy, 9.

TRUCKEE-CARSON HORTICULTURE.

Mr. Headley has submitted a report on the horticultural experiments on the Truckee-Carson Experiment Farm, prepared by Mr. Fulkerson, who has been in charge of the work. An abstract of this report will appear in a later issue of the Bulletin.

BOTANY-TEXT BOOK.

Attention is called to the fact that Coulter, Barnes, and Cowles, of the University of Chicago, have issued two volumes of a text-book of botany. These volumes are published by the American Book Company. Volume I deals with Morphology and Physiology, published in 1910; volume II deals with Ecology, published in 1911.

These volumes appear to present the current views on these phases of botany in a lucid and satisfactory manner.

If any of our field stations are desirous of securing these volumes, they can be requested through this office.

SUBSCRIPTIONS TO PERIODICALS.

In securing subscriptions to periodicals, the following points should be borne in mind:

Requisitions to cover subscriptions should be secured through the Washington office, since the Bureau does not approve the payment of subscriptions under letters of authorization.

Requests for requisitions should state the period (not more than one year) that the subscription is to cover, as "January to December, 1912, inclusive",

(Subscriptions to Periodicals, continued)

"December 23, 1911, to December 22, 1912, inclusive", or the like. If the subscription is a renewal, this should be stated. The name and address of the publishing firm and the subscription rate should be given when they are known.

A requisition for a subscription is considered filled when the first number of the periodical is received. The Washington office should be advised promptly when this number comes to hand, and the date of this number should in all cases be given; if the periodical is issued monthly, it is sufficient to name the month the first number is issued to cover.

FIELD NOTES.

Scottsbluff.

The weather during the week of February 10 was such that little outside work could be done.

A feed grinder has been installed and most of the horse feed will probably have to be ground this spring. Oats are selling at \$1.50 per cwt., and can be had only in small quantities, so that it has been necessary to purchase corn at \$1.25 to mix with the oats.

Williston,

The weather moderated during the week of February 10 and work is beginning to open up. Mr. Hawley spent the week among the farmers on the project, making suggestions as to crops to be planted this spring and helping them to lay out their farms.

FIELD NOTES.

Huntley.

The maximum temperature for the week of February 3 was 49, minimum -3.

Umatilla.

The maximum temperature for the week of February 10 was 55, minimum 35.5; precipitation, 9.17 inch; wind velocity: highest, 5.40 miles per hour, lowest 0.71.

Truckee-Casson.

During the week of February 10 the maximum temperature was 62, minimum 16.

Little snow has fallen in the mountains during the winter, so there is fear of a shortage of irrigation water during the coming summer.

The mess house has been supplied with radishes from the hotbed, the first product of the season.

A cooperative boarding club has been organized and began operations February 1, under the name of the "Expero Club".

Yuma.

During the week of February 3 the maximum temperature was 78, minimum 28.

Mr. McLachlan arrived at the station February 2 and a meeting of the settlers was held on the same day for the purpose of discussing the subject of Egyptian cotton culture. About 100 persons were present. Some forty acres were signed up, while a number expressed their intention of planting some cotton but had not yet decided on the acreage. It is likely that about 100 acres will be planted in this vicinity.

Mr. Wilsie, the County Horticulturist, visited the farm on Friday and Saturday.

17 February, 1912.

FIELD NOTES.

San Antonio.

The first part of the week of February 10 was unusually cold, the minimum temperature for four consecutive mornings being below 20°. The maximum for the week was 71, minimum 16; greatest daily range, 41.

The north fence line of the experiment farm has been moved sixty feet south in order to make way for a boulevard leading from the Corpus Christi Road to the new city burial grounds. This has not disturbed any of the cultivated fields on the farm, except Orchard A-1. The valuable trees included in the northern strip of this orchard were transplanted to other locations. These included peaches, plums, figs, and pistache trees.

A shipment of trees was received from the Cibolo Nursery at Cibolo, Texas, consisting of plums, cherries, and figs, to be grown in variety test experiments.

Several varieties of peaches and plums budded on the seedling Mexican peach as a stock were transplanted from the nursery propagation rows to orchard positions. Very profitable results are expected from this type of peach as a stock for growing peach varieties in the black land regions of southern Texas.

Mr. J. H. Kinsler, of Victoria, spent part of Wednesday and Thursday at the station.

Messrs. Hansen and Spain leave Washington today for their station at Huntley.

The first number of the Egyptian Cotton News-Letter was issued February 15.

24 February, 1912.

NEMATODES.

Bureau of Plant Industry Circular No. 91, "The Nematode Gall-Worm on potatoes and other crop plants in Nevada", has just been issued and is being distributed to potato growers in the infected districts.

FREIGHT RATES AT BARD.

The Yuma "Sun" of February 16, 1912, conveys the news that the Southern Pacific, through J. C. Stubbs, General Traffic Manager, has announced a reduction in freight rates between Bard and Yuma, a distance of seven miles. Heretofore the rate has been \$2.00 a ton; hereafter it will be \$1.00 a ton.

TRUCKEE-CARSON HORTICULTURE, 1911.

Mr. Fulkerson reports on the horticultural experiments at Truckee-Carson that the fruit trees made satisfactory growth during the year, but no fruit was secured, owing to a severe April freeze. Orchard heaters were given a preliminary trial, with satisfactory indications.

Grapes have made very slow growth and none of those tried have appeared to be successful.

The small fruits, with the exception of the Crandall currant and a few blackberries, have not done well; which is true also of strawberries, the latter apparently being very susceptible to carbonates.

A large number of fruit tree seedlings were planted in the spring of 1910 and budded that season, but very few of the buds survived the winter of 1910-1911. Of a total of 194 buds put in, 34 were alive November 25, 1911.

24 February, 1912.

(Truckee-Carson Horticulture, cont.)

Better success was secured with apple grafts. Of more than 400 put in, 33 per cent survived.

Of a large number of shade tree seedlings put in, Ailanthus made the best seedling growth; black locust and box elder doing fairly well. The oleaster also did well from the seed, and the seed of a species of elm received from Mr. A. F. Davis from Russian Turkestan germinated well and looks very promising.

FIELD NOTES.

Huntley.

The maximum temperature for the week of February 17 was 52, minimum 24.

Yuma.

Mr. McLachlan left on the 5th for Phoenix, Sacaton, and adjacent points, returning to the station on the 10th.

Messrs. McLachlan and Peterson intend to spend a part of the week of February 17 in the Imperial Valley and will meet many Egyptian cotton growers of the valley at El Centro on the 14th.

Williston.

During the week of February 17 the weather continued warm; the snow melting slowly. Farmers are busy hauling manure and doing other work in preparation for the spring operations. Because of the two dry seasons just past every farmer who can have an irrigation plant is figuring on one, and Mr. Hawley is kept busy giving the settlers the benefit of his knowledge and experience in this direction.

2 March, 1912.

FIELD NOTES.

Truckee-Carson.

During the week of February 24 the maximum temperature was 57, minimum 9; precipitation, 0.05 inch.

High winds were recorded during the greater part of the week.

Williston.

Mr. Hawley spent the week of February 24 among the farmers at Buford and Trenton, attending a meeting and visiting the settlers.

The weather turned cold again, with more snow.

Umatilla.

During the week of February 17 the maximum temperature was 53, minimum 24; maximum wind velocity 20.57 miles, minimum 1.62; precipitation, 0.405 inch.

Scottsbluff.

A heavy snow fell on February 18 and 19, by Tuesday the thermometer registered 5 degrees below zero, and cold weather and more or less snow continued throughout the week.

During the week Mr. Knorr did some farmers' institute work on the project and at nearby towns. The attendance has always been good and the majority of the farmers are keen to learn and get information regarding crop work under irrigation.

3 March, 1912.

FIELD NOTES.

Belle Fourche.

During the week of February 24 the maximum temperature was 49, minimum 15.

The men were employed in repairing machinery, hauling feed, and widening and building higher the dam on Dead Man creek. During the past week considerable water was stored in this reservoir.

Yuma.

Mr. McLachlan and Mr. Peterson spent the 14th and 15th at El Centro, meeting prospective Egyptian cotton growers. From present indications, between three and four hundred acres will be planted to this crop in the Imperial Valley this season.

The leveling of a strip of rough land on the north side of the farm for a fence and roadway has been nearly completed. The strip of level land now extends around the farm, with the exception of a large fill in the northwest corner and some work on the south side.

Several beds of cannas have been planted on the lawn near the office and farmhouse. Two beds have been planted to roses. Bamboo and other ornamentals will be added, giving the grounds a more home-like appearance.

Truckee-Carson.

During the week of February 17 the maximum temperature was 64, minimum 14. On the 11th there was 0.01 inch rainfall, and on the 14th a trace.

The work of leveling Field D was continued. This field is expected to be the best strip of land of any size on the farm.

Work on a water supply system for the city of Fallon has been commenced. A reservoir will be located at the highest point of Rattlesnake Hill, 224 feet above the level of the city and several large wells will be dug and the water pumped to the reservoir.

The greenhouse arrived and is now in course of construction.

2 March, 1912.

FIELD NOTES..

San Antonio..

The minimum temperature for the week of February 17 was 35, maximum 47.

On the 12th 3.3 inches of rain fell, making it too wet to do field work until the latter part of the week.

Twelve 4-lb. lots of Dwarf Milo and Sudan Durra were distributed to farmers in the vicinity; also eight 6-lb. packages of Laguna corn and two 8-lb. lots of Triumph cotton seed. Sudan Durra and Dwarf Milo seed were also sent to Dr. D. A. Saunders, at Waco, to test out in different parts of the State in comparison with his collection of Texas corn varieties.

An express shipment of seven varieties of bamboos was received from the Glen St. Mary Nurseries and planted on the ground along with several varieties obtained from the office of Seed and Plant Introduction and one native type. These will probably make up the collection of supposedly hardy bamboos to be tested in our experimental plot of semitropical ornamentals. One hundred and fourteen rose bushes were planted in experimental rows. These were obtained from a local nurseryman.

Messrs. Schattenberg and Blair spent one day at Collin's Gardens, grafting Persian walnuts (Juglans regia) on the native black walnut stock (J. nigra); also varieties of table grapes on the native mustang grape (Vitis candicans).

9 March, 1912.

LABOR RECORDS.

It has been found advisable to make a few changes in the subheadings of the classification to be used for labor reports, as given on page 128, Vol. I, of the Weekly Bulletin, issue of January 27, 1912. These changes are as follows:

IV. OFFICE.

Insert "Files", "Laboratory Work", and "Accounts"; the last term to include inventory work and the preparation of vouchers.

"Collecting Plants" is changed to "Herbarium", the latter term to include all herbarium work.

V. FIELD OPERATIONS.

"Husking", "Mowing", "Raking", and "Cocking" are to be eliminated. All these operations are to be reported under the head of "Harvesting".

C. S. SCOFIELD.

MAILING LISTS.

Each experiment farm should maintain a mailing list of the addresses to which circulars and bulletins pertaining to its work, and other Bureau publications of local interest, should be sent. This mailing list should be kept on cards. It should include the names of all farmers within a radius of several miles from the experiment farm and of such business men and others as would probably be interested in the publications to be distributed. Upon a Reclamation Service project it should include the names of all the farmers on the project. A record should be made on each card of the publications sent to the address listed thereon. This record may be kept by using Yearbook Separate, B. P. I. Bulletin, B. P. I. Circular, and Farmers' Bulletin numbers, the name

9 March, 1912.

(Mailing Lists, continued)

of the series being abbreviated in each case, and using document numbers for unnumbered circulars and the like.

Care should be taken to keep the list up to date, with special reference to changing or dropping known inadequate, erroneous, or obsolete addresses. Addresses that have been dropped should be removed from the list and filed separately, as a matter of record. An address insufficient to carry mail to the addressee should not be listed.

Specially ruled mailing list cards may be secured from the Washington office. Upon the back of each card may be written any notes or remarks in regard to the needs of the addressee carded, the crops or subjects in which he is most interested, peculiarities in the soil of his farm or his methods of farming, etc., that might be of assistance in keeping the Farm Superintendent in touch with his people.

As soon as possible each farm should send the Washington office a copy of its mailing list, the copy to be typewritten, in alphabetical order, upon ordinary typewriter paper. Most of these lists are desired for use in the near future. They will also form the basis for the distribution of any later publications, until superseded by newer lists from the various farms. Whenever it appears that a farm mailing list has been materially changed subsequent to the drafting of the latest list for the Washington office, a complete new list should be made out and sent in.

When a publication is issued that is of interest to only a portion of the addressees carded, a special mailing list for that publication only should be made up and sent in to Washington.

9 March, 1912.

FIELD NOTES.

Williston.

During the week of March 2 the weather turned cold again, with snow the latter part of the week, making outdoor work impossible. The heaviest snow of the season fell, and for a few days the temperature was around 22° below zero.

Umatilla.

During the week of February 24 the maximum temperature was 56, minimum 18.5; precipitation 0.3; wind velocity: maximum 12.3 miles per hour, minimum 1.0 mile.

Alfalfa and rye are starting. The greater part of the blossom buds on peaches have been killed by low winter temperatures in this district.

Huntley.

During the week of February 24 the weather was unusually mild for the season and there was no snow left on the ground.

Some wheat poisoned with strychnine and cyanide was put out to exterminate prairie dogs. This seems to have been very effective and will likely rid the ground of these pests.

Messrs. Hansen and Spain arrived at the station on the 20th.

Scottsbluff.

Mr. Knorr reports cold and snowy weather throughout the week of March 2, the temperature ranging from 24° above to 12° below, with high winds that piled the snow into deep drifts.

Mr. Knorr and Mr. Holden did some Farmers' Institute work on the Project and report good audiences at most of the places.

9 March, 1912.

FIELD NOTES.

Belle Fourche.

During the week of March 2 the maximum temperature was 45, minimum -1. On March 1 one inch of snow fell, with a high wind (400 miles for the 24 hours).

Project Engineer McGruder visited the station February 25, and promised to deliver water to the farm by May 1.

Mr. Dillman arrived at the station February 29.

Yuma.

The teams employed in leveling a roadway around the farm have been discharged, the work having been completed as far as funds will permit.

Plats C-8 and 9 have been planted to seedling figs; every other tree from the fig nursery rows which were planted last spring being used for the purpose. The wood on all fig varieties was badly frozen in January, but new growth is beginning from the bases of most of the plants.

Eighteen hundred eucalyptus trees for planting around the farm have been received. To insure a good stand when transplanted into the field, the trees have been potted temporarily.

During the week of February 24 the maximum temperature was 88, minimum 27.

COMPARATIVE WEATHER RECORDS FOR FEBRUARY.

	Truckee-			
	Carson.	Huntley.	Umatilla.	
Mean Temperature	37.90	29.1	38.8	
Maximum "	64.00	52.0	58.0	
Minimum "	8.00	- 5.0	16.0	
Rainfall	.06	.21	.675	
Aver. wind velocity	3.11	122.7	95.11	
Days clear	14	0	4	
Days partly cloudy	7	15	15	
Days cloudy	8	14	10	

9 March, 1912.

FIELD NOTES.

San Antonio.

During the week of February 24 the maximum temperature was 78.5, minimum 30. The precipitation for the week was 2.89 inches, occurring on the 23rd.

Corn was planted on the 19th and 20th on the rotation plats, and on the 20th fourteen 1/10 acre plats were planted to grain sorghum and broomcorn varieties.

An express shipment of palms native to east Texas was received from Mr. A. G. Schattenberg, of Garrison, Texas, and planted on the grounds.

Messrs. Hastings and Blair spent one day during the week collecting and transplanting to the grounds large plants of various native aguaves and cacti growing in localities near San Antonio.

The maximum temperature for the week of March 2 was 69, minimum 30.5; rainfall, 0.31 inch.

During the early part of the week the harrows and cultivators were kept busy loosening up the soil. The plats planted to corn on the rotation plats were also harrowed.

Mr. Ernest E. Brown, of the office of Corn Investigations, arrived Monday, to put in his corn plantings, but owing to cool weather no planting was done until Friday. Mr. Brown left Sunday morning for Waco.

Shipments of palms were received from the California Nursery Company and the Royal Palm Nursery Company. Also several other hardy ornamentals and shrubs were received from the former company for ground planting.

Two hundred and twenty-five roses were received from the Department greenhouses at Washington and planted on the grounds and on A3. This completes the rose collection to be tested this year.

During the early week one day was devoted by Mr. Hastings and Mr. Blair to collecting and transplanting native yuccas growing near the Farm to positions in the collective yucca planting. Four yucca species have been received from Florida.

Persian walnut scions of eight leading varieties were received from California, seventy-five of which Mr. Blair

9 March, 1912.

FIELD NOTES.

(San Antonio, continued).

worked on native black walnut stock growing in nursery rows at Capt. Collins' gardens. Several were grafted on stock growing on the farm nurseries.

The several varieties of plums growing in orchard A-1 are beginning to blossom, which is affording an opportunity for various hybridization experiments with the native plum varieties of this section.

The Mexican seedling peach orchard is in full bloom and shows encouraging prospects for a crop of fruit from these trees this season.

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